A Dissertation on

"PREVALENCE OF BODY DYSMORPHIC DISORDER & PSYCHIATRIC COMORBIDITY IN PATIENTS ATTENDING COSMETOLOGY OUTPATIENT DEPARTMENT IN A GOVT TERTIARY CARE INSTITUTION IN TAMILNADU""

Submitted to

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

In partial fulfillment of the requirements

For the award of degree of **M.D.** (**PSYCHIATRY)**

(Branch-XVIII)

GOVERNMENT STANLEY MEDICAL COLLEGE & HOSPITAL
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY,
CHENNAI, TAMILNADU.

MAY 2018

CERTIFICATE

This is to certify that this dissertation entitled "**PREVALENCE OF BODY DYSMORPHIC DISORDER & PSYCHIATRIC COMORBIDITY IN PATIENTS ATTENDING COSMETOLOGY OUTPATIENT DEPARTMENT IN A GOVT TERTIARY CARE INSTITUTION IN TAMILNADU"** submitted by **Dr.P.MANIVANNAN** to the faculty of PSYCHIATRY, The Tamil Nadu Dr. M.G.R. Medical University, Chennai, in partial fulfillment of the requirements in the award of degree of M.D. (PSYCHIATRY) Branch - XVIII for the May 2018 examination is a bona-fide research work carried out by her during the period of January 2017 to June 2017 at Government Stanley Medical College & Hospital, Chennai, under our direct supervision and guidance of **Prof. Dr. W.J. ALEXANDER GNANADURAI M.D., DPM.**, Professor and Head of the department, Department of Psychiatry at Stanley Medical College, Chennai.

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DECLARATION

I **Dr.P.MANIVANNAN** solemnly declare that the dissertation **PREVALENCE OF BODY DYSMORPHIC DISORDER & PSYCHIATRIC COMORBIDITY IN PATIENTS ATTENDING COSMETOLOGY OUTPATIENT DEPARTMENT IN A GOVT TERTIARY CARE INSTITUTION IN TAMILNADU"**is a bona- fide work done by me during the period of January 2017 to June 2017 at Government Stanley Medical College and Hospital, under the expert supervision of **Prof. Dr. W.J. ALEXANDER GNANADURAI M.D., DPM.**, Professor and Head of Department Of Psychiatry, Government Stanley Medical College, Chennai. This thesis is submitted to The Tamil Nadu Dr. M.G.R. Medical University in partial fulfillment of the rules and regulations for the M.D. degree examinations in Psychiatry to be held in May 2017.

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INSTITUTIONAL ETHICAL COMMITTEE,
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Title of the Work : Prevalence of Body dysmorpic disorder & psychiatric comorbidity in patients attending Cosmetology outpatient department in a Govt tertiary care institution in Tamil Nadu.

Principal Investigator : Dr. Manivannan P

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The request for an approval from the Institutional Ethical Committee (IEC) was considered on the IEC meeting held on 12.01.2017 at the Council Hall, Stanley Medical College, Chennai-1 at 2PM

The members of the Committee, the secretary and the Chairman are pleased to approve the proposed work mentioned above, submitted by the principal investigator.

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MEMBER SECRETARY
ETHICAL COMMITTEE,
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ABBREVATIONS USED IN THIS STUDY

BABS- Browns Assessment of Beliefs Scale

BDD – Body Dysmorphic Disorder

BDDQ - Body Dysmorphic Disorder Questionairre

BDD YBOCS - Body Dysmorphic Disorder Questionairre Yale Brown Obsessive Compulsive Scale

CI- Confidential Interval

DCQ – Dysmorphic Concern Questionairre

DSM 4 - Diagnostic and Statistical Manual of Mental Disorders 4

DSM 5 - Diagnostic and Statistical Manual of Mental Disorders 5

GAD -Generalized Anxiety Disorder

HADS - Hospital Anxiety and Depression scale

HADS A - Hospital Anxiety and Depression scale Anxiety

HADS D - Hospital Anxiety and Depression scale Depression

HAM-A Hamilton Rating scale for Anxiety

ICD-10 - International Classification of Diseases and related health problems-10

SF-36-Short Form−36 questionnaire

SPSS-Statistical Package for the Social Sciences

USA-United states of America

WHO - World Health Organization

Introduction

INTRODUCTION

A disorder with characterizations such as a distressing or impairing preoccupation with slight or imagined defects in one's physical appearance is Body dysmorphic disorder (BDD). All around the world in the past 100 years,BDD has been found to be not so uncommon in clinical presentations.

An Italian physician in 1891 Enrico Morselli called this disorder as "dysmorphophobia". Furthermore he in his descriptions describes the patient as "The dysmorphophobic patient is really miserable; in the middle of his daily routines, conversations, while reading, during meals, in fact everywhere and at any time, is overcome by the fear of deformity which may reach a very painful intensity, even to the point of weeping and desperation"

Around the world there were numerous reports arose then and there.Later on BDD was described by renowned psychiatrists namely Pierre Janet and Emil Kraepelin .

Though this disease has historical importance.In the past twenty years, much has been studied in BDD viz clinical features, epidemiology, and treatment which resulted in structured studies. Because of this BDD unravelled much better ,but even

then it is underrecognized even today. This is because there are patients with BDD who suffer with substantial impairment in functioning.This potentiates the need for recognition of this disease. [1]

Patients with BDD report to doctors that they are ugly, unattractive, malformed, abnormal but in the contrary most of them look normal in reality and sometimes strikingly beautiful too.The patients perceive certain abnormalities concerning to various parts of the body namely skin(eg scar because of acne),hair(eg.,excessive facial hair or balding),nose(eg., shape and size). These abnormalities exist as preoccupations in the patients which keep on torment them all day long. The preoccupations are accompanied by repetitive behaviours or mental acts. They are mirror checking, skin picking, excessive grooming, comparing with others etc. [2]

However other problems like disruptions in self-esteem and avoidance are also prominent in affected individuals**.** Because of the appearance concerns there occurs impairment in psychosocial functioning (eg., school, occupation, academic, role functioning).This is the real bone of contention in BDD. [2]

Review

of

Literature

REVIEW OF LITERATURE

Definition and classification of BDD

According to DSM-V ,the diagnostic criteria are as follows :

A. Preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others.4 Mostly any body part can be the focus of concern but the commonest preoccupations involve skin (eg, scarring, acne, color), hair (eg, going bald, excessive facial or body hair), or nose (eg, size or shape). Thinking about the perceived appearance defect(s) for at least 1 hour a day accounts to preoccupation)(1). At some point during the course of the disorder, the individual has performed repetitive behaviors (e.g., mirror checking, excessive grooming, skin picking, reassurance seeking) or mental acts (e.g., comparing his or her appearance with that of others) in response to the appearance concerns.(1),(4) Patients suffer from substancial impairment in social,occupational and academic functioning.This will be discussed later in detail in this dissertation.

B. The preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.(4) For example a person’s only appearance concern is that his/her weight is too much or is too fat, and the person meets diagnostic criteria for anorexia nervosa or bulimia nervosa, then

the eating disorder, rather than BDD, is diagnosed.BDD and eating disorders are frequently comorbid, in which case both disorders should be diagnosed.(1),(5)

C. The appearance preoccupation is not better explained by concerns with body fat or weight in an individual whose symptoms meet diagnostic criteria for an eating disorder

Specify if:

With good or fair insight: The individual recognizes that obsessive-compulsive disorder beliefs are definitely or probably not true or that they may or may not be true.

With poor insight: The individual thinks obsessive-compulsive disorder beliefs are

probably true.

With absent insight/delusional beliefs: The individual is completely convinced that

obsessive-compulsive disorder beliefs are true. (4,5)

While mentioning all the criteria,one condition of importance is the delusional variant of BDD. Doublecoding is given to BDD in DSM IV because it is classified in as a type of delusional disorder, somatic type, in the psychosis section of the manual(1,6). The double coding implies e that both delusional and nondelusional variants may be in fact variants of the same disorder.(8)

Importantly studies report that the delusional variant of BDD responds to treatment with serotonin reuptake inhibitor (9)

Epidemiology

Existence of BDD varies across continents. A point prevalence of 0.7% to 2.4% for BDD is reported by epidemiological studies in the general population(1,15). Investigations in nonclinical adult student samples have resulted in higher prevalence rates of 2% to 13%.31-35 BDD is commonly found in clinical settings, with studies reporting a prevalence of 9% to 12% in dermatology settings, 3% to 53% in cosmetic surgery settings, 8% to 37% in individuals with OCD, 11% to 13% in social phobia, 26% in trichotillomania, and 14% to 42% in atypical major depressive disorder (MDD).8,36-49 Studies of psychiatric inpatients have found that 13% to 16% of patients have *DSM-IV* BDD.A study of adolescent inpatients found that 4.8% of patients had BDD.(1)

About 1.7% to 2.4% of the general population in the United States have BDD which accounts to about 1 in 50 people. So this implies that about more than 5 million people to about 7.5 million people in the United States alone have BDD.(10)

The prevalence of body image concerns, body dysmorphic disorder, and appropriate symptomatology was investigated in a group of 101 American students Antje Bohne, M.S.et al from Massachusetts

General Hospital and Harvard Medical School, Boston. Results were compared with data from a group of 133 German students. A sum of 74.3% of the American students had body image concerns, and 28.7% had significant preoccupations; 4.0% appeared to meet DSM-IV criteria for body dysmorphic disorder. Esteem regarding body image had significant correlations with self-esteem and depressive, anxiety, and obsessive-compulsive symptoms. Americans students showed significant body image concerns compared to German students.This shows there is a cross cultural variation. (11)

According to a study in China by Yanhui Liao et al in in the year 2008, 487 first-year medical undergraduates were consented.The results reported about one-third of participants (32.5%) admitted that they were very concerned about some aspect of their appearance not corelating to weight.About six female participants (1.3%) screened positive for body dysmorphic disorder (BDD). Higher levels of depressive and social anxiety symptoms was reported in those who displayed concern compared to those who had no concerns.(12)

Ather M Taqui et al reported a study of gender deferences and prevalence of BDD in 160 medical students enrolled in a medical university in Karachi, Pakistan. He found Out that of the 156 students, 57.1% were female. A total of 78.8% of the students reported

dissatisfaction with some aspect of their appearance and 5.8% met the DSM-IV criteria for BDD. (13)

A Cross Sectional Survey about Occurrence of Body Dysmorphic Disorder among Undergraduate Nursing Students was carried out by Mr.Harikrsihna G. & Mr.Manoj Kumar at SreeGokulam Medical College and Research Foundation, Venjarammoodu, Trivandrum, Kerala, India, during July to August 2015. And the results yielded 7.7 % which accounted to 13 out of 195 nursing students had dysmorphic concerns for nearly 1-3 hours per day.The above said data were also strongly supported by the study conducted in German college students 5.3%(11) , American college students 4%, Turkish college students 4.8%, Australian university students 2.3%, American college students 2.5% and Pakistani medical college students 5.8% (14)

Fatholoomi MR et al studied prevalence of BDD in 130 Rhinoplasty candidates between October 2010 and October 2011 at the otolaryngology clinic of Taleghani Hospital, Tehran, Iran. Out of 130 patients 41 patients (31.5%) had BDD. Among BDD patients 12 (29.3%) had concurrent depression and 11 (26.8%) had concurrent anxiety.(16)

Maria José Azevedo de Brito et al studied the prevalence and severity of BDD symptoms in patients seeking abdominoplasty.The prevalence of BDD symptoms was 57%. There were significant

associations between BDD symptoms and degree of body dissatisfaction, level of preoccupation with physical appearance, and avoidance behaviors. Mild to moderate and severe symptoms of BDD were present in 41% and 59% of patients, respectively,in the BDD group. It was found that the more severe the symptoms of BDD, the higher the level of concern with body weight and shape ($P < .001$). Patients having distorted self-perception of body shape, or distorted comparative perception of body image were respectively 3.67 or 5.93 times more likely to show more severe symptoms of BDD than those with a more accurate perception.(17)

In a study at Plastic Surgery Department at Kaohsiung Medical University Hospital, Taiwan, from January 2006 to December 2008,the medical records of the of 817 individuals who sought cosmetic surgery during a 3-year period was taken for analysis.The results obtained showed that 63 (7.7%) patients had BDD, of which 54 (85.7%) were diagnosed at preoperative evaluation. However, nine (14.3%) patients went undiagnosed and all had a bad outcome after cosmetic surgery.This shows BDD is prevalent in medical settings whether being rhinoplasty,abdominoplasty or plastic surgery.(18)

A Study by Mayville et al in 566 sample of adolescents revealed 2.2% prevalence rate of BDD(25)

Etiology of BDD

According to diathesis stress models of BDD results from an interplay between environmental stressors and predisposing biological factors. Results of twin studies indicate that genetic factors account for approximately 42%–44% of the variance in BDD-like symptoms, with the remaining variance being account for by non-shared environmental influences(26,27) Genome-wide association studies have yet to be conducted in BDD, and thus no specific risk genes have been identified to date. The specific aspects of the environment that contribute to the development of BDD also remain unknown. Research on environmental risk factors in BDD is sparse and most studies have serious methodological limitations, including an over-reliance on cross-sectional and retrospective designs, lack of multiple-informant assessment methods and inadequate control of potential confounding variables such as comorbidity and genetic factors. Nevertheless, a range of environmental factors have been suggested to influence the development of BDD, including childhood abuse, peer teasing and peer victimisation. Studies have shown that adults with BDD report high levels of childhood maltreatment, with up to 79% of patients reporting abuse(28) Furthermore, retrospectively reported rates of abuse are elevated in patients with BDD compared with healthy controls(29) and patients with OCD(30), although the cross-sectional nature of these studies prevents

any interference regarding causality. Bullying has also been shown to be associated with BDD(31) Several recent studies have shown associations between self-reported appearance-related teasing and BDD symptoms in analogue samples(32,33) and clinical samples(34) particularly when the teasing is by members of the opposite sex (32) In one of the only longitudinal studies of environmental risk factors in BDD, peer victimisation in school students (as reported by the peer group) was prospectively associated with the development of BDD symptoms 12 months later(35) in line with suggestions that experiences of bullying may play a causal role in BDD. Although further research is clearly needed, understanding the role of environmental risk factors could have important implications for the prevention and early intervention in BDD.

Demographic Characteristics

Age

BDD usually begins during childhood or adolescence. There were occurence of cases in children as young as 5 and in adults as old as 80.(15)

The mean age at onset of 16.7 (SD=7.3) in sample 1 and 16.7 (SD=7.2) in sample 2. 66.3% of subjects in sample 1 and 67.2% in sample 2 had BDD onset before age 18, those with early-onset BDD currently had more severe BDD symptoms.(21)

In two of the studies by Conroy et al(2008) and Grant et al(2001) in the United States, 13% and 16% prevalence was found in adult psychiatric inpatients.(36,37)

Gender

The largest clinical samples of persons ascertained for BDD contained an equal proportion of females and males (49% of 188 participants were female)52 or a somewhat higher proportion of females (68.5% of 200 participants).53 They inferred that BDD may be somewhat more common in women, but it clearly affects many men as well.(1,3)

Ather M Taqui et al reported a study of gender deferences and prevalence of BDD in 160 medical students enrolled in a medical university in Karachi, Pakistan.The male to female ratio for BDD was 1.7(13)

Two largest population-based studies of BDD (one conducted in Germany; n=2552, and the other conducted in the US; n=2048) with respect to gender ratio found a point prevalence of 2.5% of women vs 2.2% of men, and 1.9% of women and 1.4% of men, respectively.(1,15)

In some study samples it was reported that equal proportion of males to females or a

higher trend towards females was found.(20) And in some studies and higher proportion of females had early-onset BDD in some samples(21)

According to a twelve month follow up study by Phillips KA, et al,Two hundred subjects were enrolled in a ongoing single-site longitudinal study of the course of DSM-IV BDD. All subjects met the full criteria for lifetime (i.e., current or past) DSM-IV BDD or its delusional variant (delusional disorder, somatic type).The results reported that gender differences are not apparent in the course of BDD, with similar illness course and outcomes for males and females.(10,24)

In the Study by Mayville et al in 566 sample of adolescents revealed results such that adolescent girls were more dissatisfied with their bodies than adolescent boys, and that African-Americans of both genders were less dissatisfied with their bodies than Caucasians, Asians, and Hispanics. The interaction between gender and ethnicity was not significant.(25)

Marital Status

The two population-based studies cited earlier found that individuals with BDD are less likely to be married than those without BDD, and are more likely to be divorced.(15,22)

Occupation:

Individuals with BDD are also significantly more likely to be unemployed than the general population. (15,22)

In a sample of 200 individuals with BDD, 37.6% were currently unemployed.(24).

Comorbidity:

Abuse of anabolic steroids is seen in 20% men with muscle dysmorphia.This leads to drug dependence and other physical and psychiatric side effects like depressive symptoms on abrupt discontinuation and some times also encountered as aggressive behavior due to withdrawal.(5)

BDD usually has an onset before major depressive disorder,this view was supported by Phillips and Diaz et al in 1997 and Phillips et al in 2005.This is reported by patients as their sadness and worries which was related to their subjective preoccupations experienced by themselves. Social anxiety disorder is another disorder that co-occurs in about 40% patients suffering from BDD. About one third of BDD patients have a comorbid OCD according to studies.(20)

In a study by G Villareal et al, the frequency of body dysmorphic disorder was evaluated in patients with a primary diagnosis of major depression and anxiety disorders.Samples from Patients with social phobia (N = 54), obsessive-compulsive disorder (N = 53), generalized anxiety disorder (N = 32), panic disorder (N = 47), and major depression (N = 42) and normal comparison subjects (N = 33) were studied. And the results inferred that Body dysmorphic disorder was

commonest in patients with social phobia (11%) and obsessive-compulsive disorder (8%); panic disorder (2%), generalized anxiety disorder (0%), and major depression (0%) and among normal subjects (0%).They concluded that these findings suggest that body dysmorphic disorder may be one of that etiological triggering element in patients with social phobia and obsessive-compulsive disorder.(38)

BDD and obsessive-compulsive disorder (OCD) based on the prevalence data, etiopathogenic pathways, and clinical characterization of patients with between BDD and obsessive-compulsive disorder (OCD) .Álvaro Frías et al aimed to determine the empirical evidence between the potential relationship between both the disorders.Their study was performed from 53 published manuscripts between 1985 and May 2015. The results revealed that 27.5% lifetime comorbidity rate between BDD–OCD and 10.4% with a primary diagnosis of BDD than those with primary OCD.This is almost threefold when compared to the later.(39)

However, other mental disorders, such as social phobia or major depression, are more likely among both types of psychiatric samples. They tried to find out the empirical evidence regarding the etiopathogenic pathways for BDD–OCD comorbidity. But that was still

inconclusive, whether concerning common shared features or one disorder as a risk factor for the other.(39)

Cotterill JA et al studied the suicidal behavior in Sixteen patients presenting with dermatological problems to two dermatologists. They were seven men and nine women, who committed suicide after presenting with dermatological problems. It was found that most of the patients had either a body image disorder (dysmorphophobia) or acne (40,46).

Clinical Features

When speaking about BDD the first symptom which comes to our mind is Preoccupation with appearance defect. These preoccupations are observable by others even at a closest proximity such as where two persons can converse with each other. Preoccupation may be limited to one body part or might be present regarding several body parts. According to studies it has been illucidated that about 5 preoccupations can exist on an average in an individual.(3)

The various areas disliked by individuals include face ,head, skin (eg, scarring, acne, color), hair (eg, going bald, excessive facial,head or body hair)(3,20), or nose (eg, size or shape). However any area in the body might be the focus of the preoccupation(eg eyes,teeth,jaw,ears,head size or shape, breast, thighs, stomach, hands, stomach, hands, body build).(3,40)

Symmetrical concerns are also found in BDD in more than 25% patients (eg uneven hair or asymmetrical eyebrows) (41,42)

The nature of the appearance preoccupation will be tormenting,intrusive and time consuming.If the time consumption is atleast 1 hour a day or more it is considered a significant symptom for BDD.Some patient's preoccupation go for the entire day while others have duration ranging from 3hour to 8 hour a day.With these time consuming proccupations swirling in the patients mind,the affected person feels at distress as they are not pleasurable at all.And patients find themselves stranded and usually facing it difficult or unable to resist or control the preoccupations.(40,42)

Patients undergoing these preoccupations are subjected to a sense of distress,anxiety,depressed mood,shame and dysphoria(40,42).

Insight and Delusionality in BDD

In psychiatry, insight is considered as a multidimensional construct with varying explanations.Insight in BDD is the degree of an individual's conviction in his or her belief relevant to the disorder.The degree of delusion severity also reflects on the insight.(8) The relationship between delusional and nondelusional BDD is clinically important because it has relevance for patient care.

In DSM IV

there was a confusion of double coding when it comes to BDD.

Researchers suggested that BDD's delusional and nondelusional variants have many similarities and few differences.Both variants of BDD appear to respond to the same pharmacological treatment. Because the classification approach taken in DSM-III, DSM-III-R, and DSM-IV was not evidence-based due to lack of data, and given limitations and problems of this approach,The researchers recommend that DSM-5 and the International Classification of Diseases – 11th Revision (ICD-11) to classify BDD's delusional and nondelusional forms as the same disorder, with inclusion of a specifier for absent insight/delusional BDD beliefs(43).

Psychosocial Functioning:

Body dysmorphic diseases are associated with markedly lower psychosocial functioning and mental health related quality of life across a broad range of domains(44) . On Standardised measures differences between individuals with body dysmorphic disorder and norms are very large and typically several standard deviation scores below normal scores(44).On short form health survey mental health subscales or 0.4 to 0.7 standard deviation units poorer than for depression . impairment in functioning can range from Moderate to Extreme. A patient with moderate functional impairment due to body dysmorphic disorder me for example avoid darting and some but not all social events . she may be able to attend school but maybe late and miss

some classes . Patient with extreme and incapacitating body dysmorphic disorder may quit their jobs and avoid all social contact and stay in his bedroom all times. More severe body dysmorphic disorder symptoms are associated with poorer functioning and quality of life(44). Males tend to have someone great functional impairment than females(40,44)

Among individuals with body dysmorphic disorder that is moderate in severity nearly 1/3rd have been completely housebound for at least one week because of body dysmorphic disorder symptoms. Some have been housebound for years because they feel ugly to be seen. Nearly 40% hospitalized and more than one quarter attribute at least one psychiatric hospitalisation to body dysmorphic disorder(40).

The most concerning aspect of body dysmorphic disorder is the high rate of suicides. From clinical perspective reason for suicidality may include hopelessness about being be formed or feeling angry and hopeless because rituals do not improve the defects, feeling rejected by others because of being ugly , social isolation , Ideas / delusion of reference which may increase social isolation , negative core beliefs , a high prevalence of comorbid major depressive disorder and believe that a Cosmetic procedure made the patient even look Worse(40)

Rationale of the Study

Rationale of the Study

- Though there are many similar western studies, This type of study has not been carried out in Tamilnadu
- BDD cases are often underdiagnosed and underreported
- carrying out this study will help by identifying the prevalence of BDD such individuals,
- Moreover this study can throw light in such situations by not only identifying them but also guiding the patients to appropriate therapy and awareness about the situation and thereby increasing the chance of being a efficient tool for aiding physicians towards accurate diagnosis thereby saving time and also preventing unnecessary interventions.

Aims

&

Objectives

AIM AND OBJECTIVES

- 1. To assess the prevalence of Body dysmorphic disorder in patients attending cosmetology outpatient department in Govt Tertiary care institution in Tamilnadu
- 2 To assess comorbid psychiatric illness in the identified BDD patients
- 3.To assess the Quality of Life in identified BDD patients

Materials

&

Methods

MATERIALS AND METHODS

STUDY DESIGN:

- Type of study : A cross sectional descriptive study in male and female patients with complaints attending cosmetology Outpatient Department.
- The duration of the study was 6 months.

STUDY POPULATION

- Source of data: The sample is drawn from the Cosmetology out-patient department, Government Stanley Medical college, Chennai

SAMPLE SIZE

Taking prevalence as 6.7% and a error of 6% sample size was calculated and found to be 70. 85 patients were taken up for the study.(48)

SAMPLING METHOD:

Consecutive sampling

INCLUSIONCRITERIA:

1.All patients attending cosmetology OPD at Govt Stanley Hospital

2.Patients above 13 years of age

3Those who are giving consent for study

EXCLUSION CRITERIA:

1.Patients with prior psychiatric illness or substance abuse

2.Those who are not giving consent for study

METHOD OF COLLECTION

- 100 patients attending Cosmetology out-patient department in Government Stanley Medical College Hospital were examined and assessed.Those patients with substance use and prior psychiatric illness,those who did not give informed consent were excluded (n = 15), remaining 85 patients were administered relevant scales to asses BDD,Anxiety,Depression and Psychosocial Functioning
- Informed consent was obtained from the patients with complaints of body image concern attending Cosmetology out-patient department, they were interviewed and assessed using various scales. The obtained data was recorded for study purpose.
- Information is obtained from the patient and their liable informant.
- Ethical Committee approval was obtained from Institutional ethics committee,

Instruments used

- 1 Body Dysmorphic Disorder Questionairre
- 2 Dysmorphic Concern Questionairre
- 3 BDD YBOCS
- 4 Brown Assesment of Beliefs Scale – Adult version
- 5 SF 36
- 6 Hospital Anxiety and Depression Scale

ASSESSMENT PROCEDURE OF THE STUDY

Detailed sociodemographic details (age, sex, education, religion, socio economic status, etc.) and History of substance abuse and dependence , past history of psychiatric disorder were recorded in the semi – structured proforma sheet designed for this study. All the patients were evaluated with Dysmorphic Concern Questionairre(DCQ), Body Dismorphic Disorder Questionairre, BDD YBOCS, Brown Assesment of Beliefs Scale, SF 36, Hospital Anxiety and Depression Scales.

Body Dysmorphic Disorder Questionnaire

- BDDQ is a self-report screening instrument
- Available data suggest that there is excellent agreement between the BDDQ and a clinician's judgment of whether BDD is present (as assessed with the BDD Diagnostic Module).
- Katherine A Phillips et al and Harrison Pope of Harvard Medical School, found that the BDDQ had a sensitivity of 100% and a specificity of 89% among 66 outpatients in a psychiatric setting.
- This means that in a group of individuals who are judged by a clinician to really have BDD, the BDDQ will accurately ascertain that BDD is present in 100% of the cases.

And in a group of individuals whom a clinician judges really don't have BDD, the BDDQ will accurately determine that BDD is *not* present in 89% of the cases(49)

Body Dysmorphic Disorder Yale Brown Obsessive Compulsive Scale

In the present study the 10-item version of the clinician-administered Yale-Brown Obsessive Compulsive Scale modified for BDD (BDD-YBOCS)31 to create a self-report measure of symptom severity was adapted.(50,51)

This was modeled after the Y-BOCS, the BDD-YBOCS is a measure of past-week BDD symptom severity. Rather than using the 12-item version, which includes an item on insight that cannot be assessed via self-report.The 10-item version, which excludes this item i.e insight.

The self-report scale was presented in a Likert-type format from 0 (least extreme) to 4 (most extreme), with higher total scores indicating more severe BDD symptomatology.(50,51)

The BDD-YBOCS had good internal consistency ($\alpha = 0.76$) despite its use as a self-report measure.(50,51)

Dysmorphic Concern Questionnaire

The DCQ was based on the General Health Questionnaire (GHQ) [52]. A series of seven statements were devised, based on the dysmorphicconcern literature, to capture the essence of the problem (e.g. concern about physical appearance, considering oneself misshapen), and past attempts to deal with the problem (e.g. consulting a plastic surgeon, covering up supposed defects). Following the structure of the GHQ, respondents were asked to consider whether for each item they had 'no concern', or their

concern was, in comparison with most people, 'the same', 'more' or 'much more.(52,53,54,)

The mean score on the DCQ was 5.2 (SD - 5.6). Internal consistency, Chronbach's alpha was 0.88.(53,54,)

Brown Assesment of Beliefs Scale

Developed by Jane L Eisen MD,Katherine A Philips,Douglas Beer at Brown University

6 items- Conviction,

Perception Of Others Views

Explanation Of Differing Views

Fixity Of Beliefs

Attempt to disprove beliefs

Insight

Delusion of Reference

The *Brown Assessment of Beliefs Scale*(BABS)is a rater-administered measure, assessed the degree to which body-image beliefs were delusional; scores range from 0 to 24, with higher scores reflecting greater delusionality (55).

Medical Outcomes Study 36-Item Short Form Health Survey (SF-36)

SF36 assesses mental health-related quality of life and mental health status; subscale scores range from 0 to 100 (56)

The SF-36 questionnaire consists of 36 questions (items) measuring physical and mental health

status in relation to eight health concepts:

• physical functioning

• role limitations due to physical health

• bodily pain

• general health perceptions

• vitality (energy/fatigue)

• social functioning

• role limitations due to emotional health

• general mental health (psychological distress/wellbeing)

It contains multi-item scales measuring eight generic health concepts: physical functioning (PF), role limitations due to physical

health problems (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RE), and mental health (MH) (56).

Hospital Anxiety and Depression Scale

- HADS was originally developed by Zigmond and Snaith (1983)
- HADS is commonly used to determine the levels of anxiety and depression that a patient is experiencing.
- The HADS is a fourteen item scale that generates ordinal data.
- Seven of the items relate to anxiety and seven relate to depression.
- Zigmond and Snaith created this outcome measure specifically to avoid reliance on aspects of these conditions that are also common somatic symptoms of illness, for example fatigue and insomnia or hypersomnia.

Thus, this tool was used for the detection of anxiety and depression in people with physical health problems.(57,58)

Statistical Analysis

STATISTICAL ANALYSIS

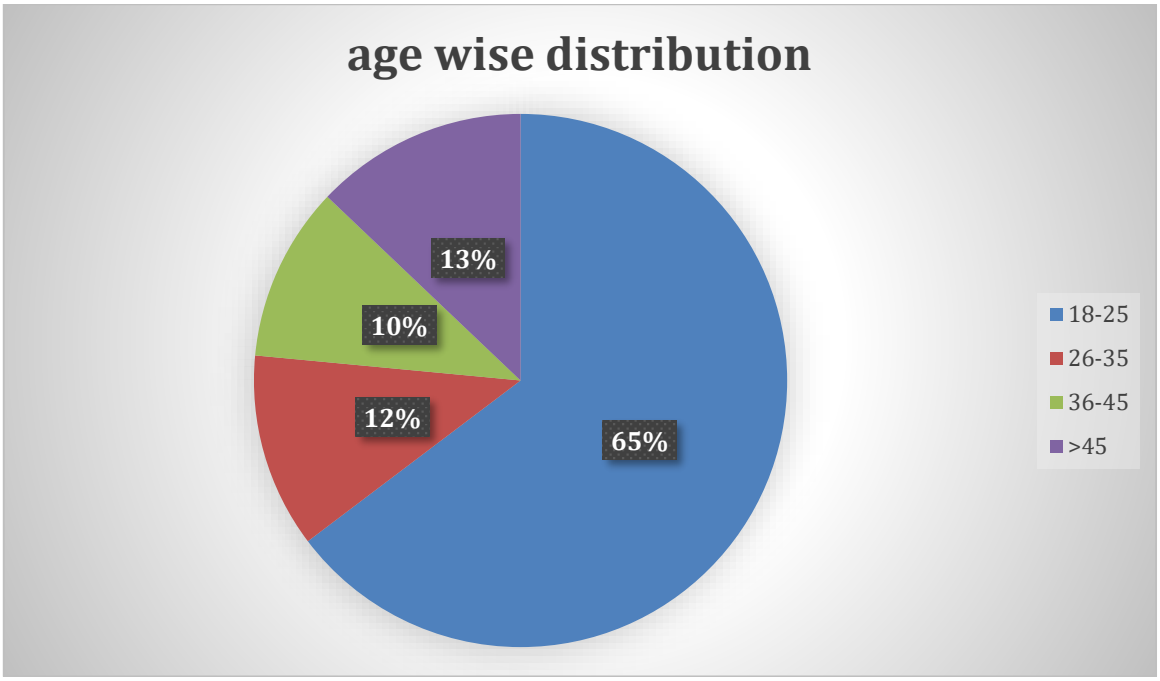
- Descriptive statistics and frequency for calculation of mean and median was done.
- Chi square test was used for comparing between sociodemographic variable and prescence of bdd, sociodemographic factors and disease factors with presence or absence of anxiety and depression.
- Correlation analysis was done to find out the relation between anxiety and depression and disease factors using SPSS 20.

Observations
&
Results

Sociodemographic features of the sample taken for study

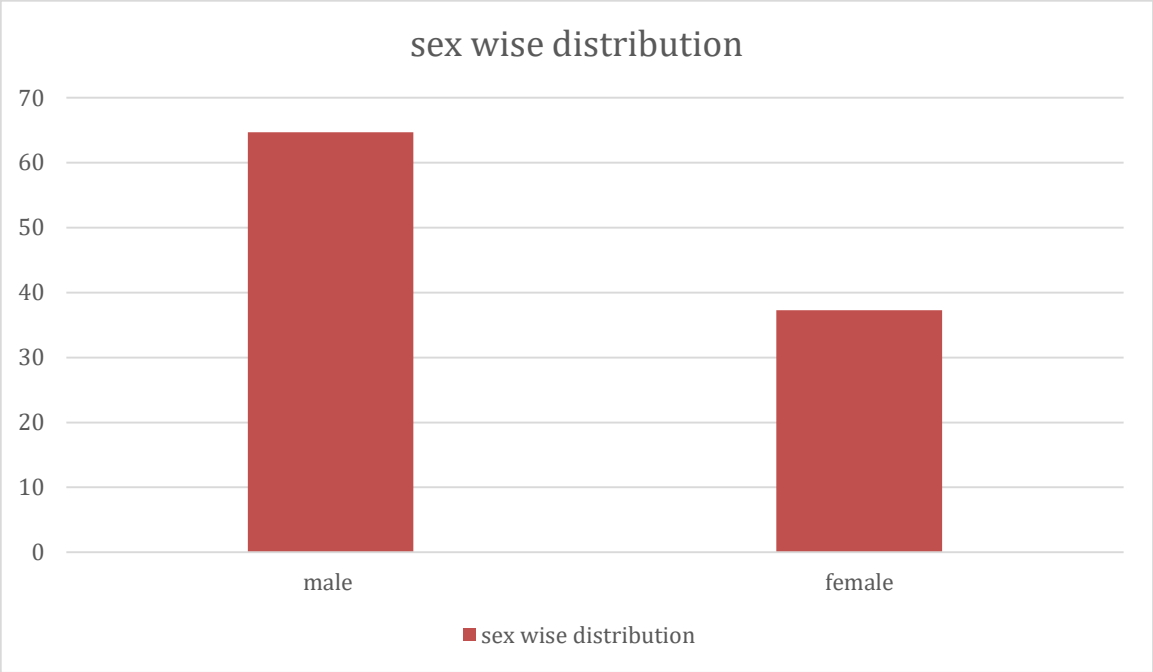
Distribution of age:

Among the 85 patients, 55(64.7%) were found between 18 -25 years of age, 10 (11.8%) were in the age group of 26-35 years, 9 (10.6%) were in the age group 36 -45 and 11 (12.9%) are in the age group of >45 years.



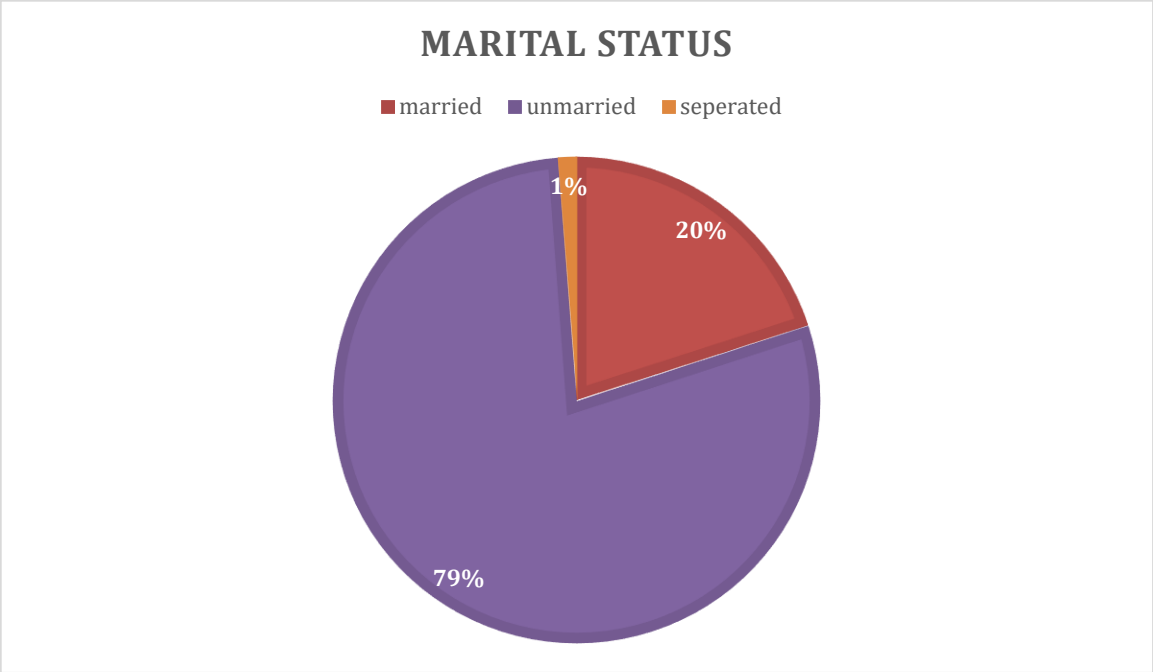
Sex-wise distribution of the sample:

Of the 85 patients in the study, 55(64.7%) were male and 30(37.3%) were female.



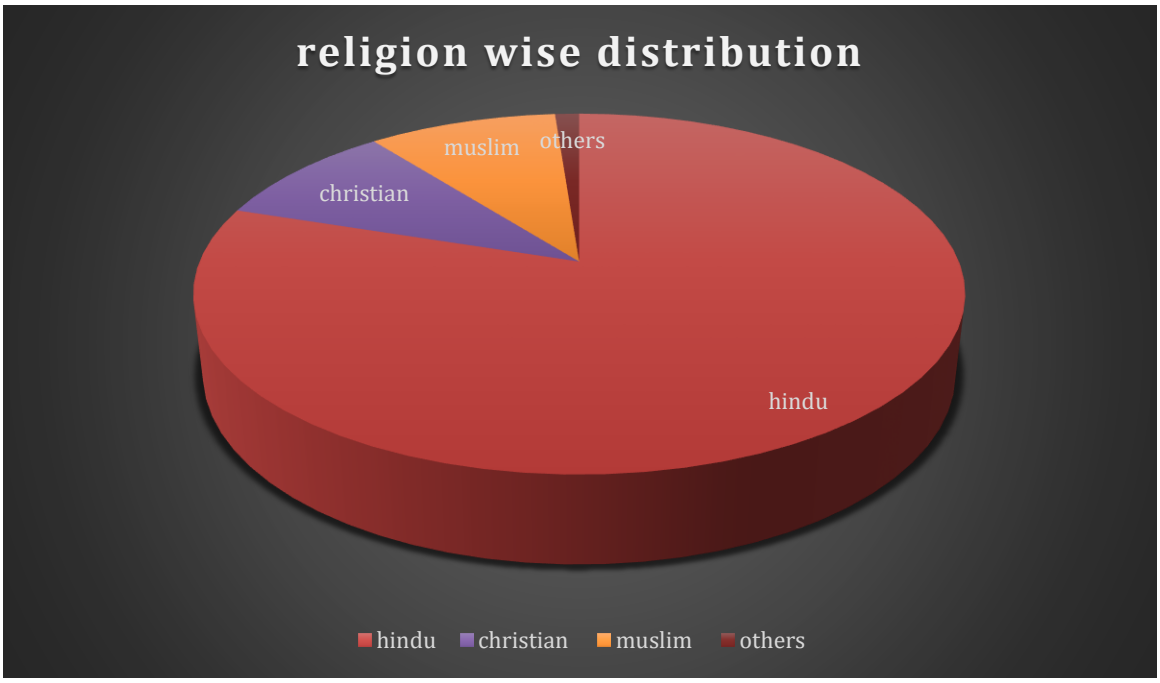
Marital status

Among the 85 patients taken up for the study, 17 (20%) were married, 67(78.8%) were unmarried and one (1.2%) was separated.



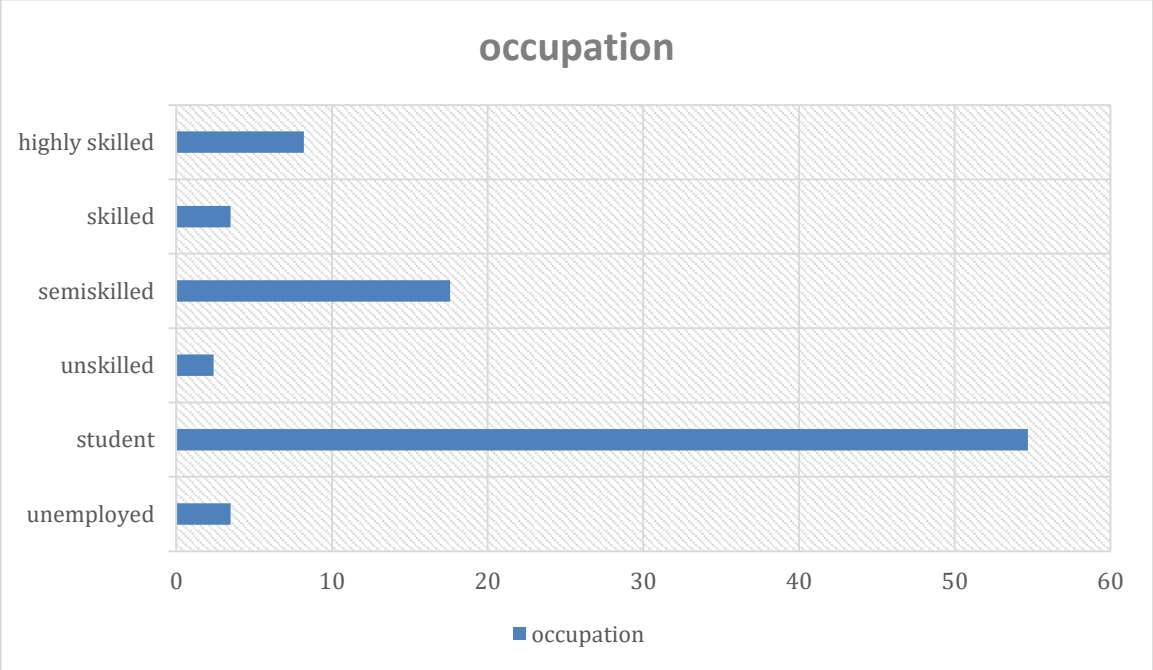
Religion:

Majority of the patients 68(80%) were hindus, 8(9.4%) were Christians, 8(9.4%) were muslims and one (1.2%) belonged to other religion



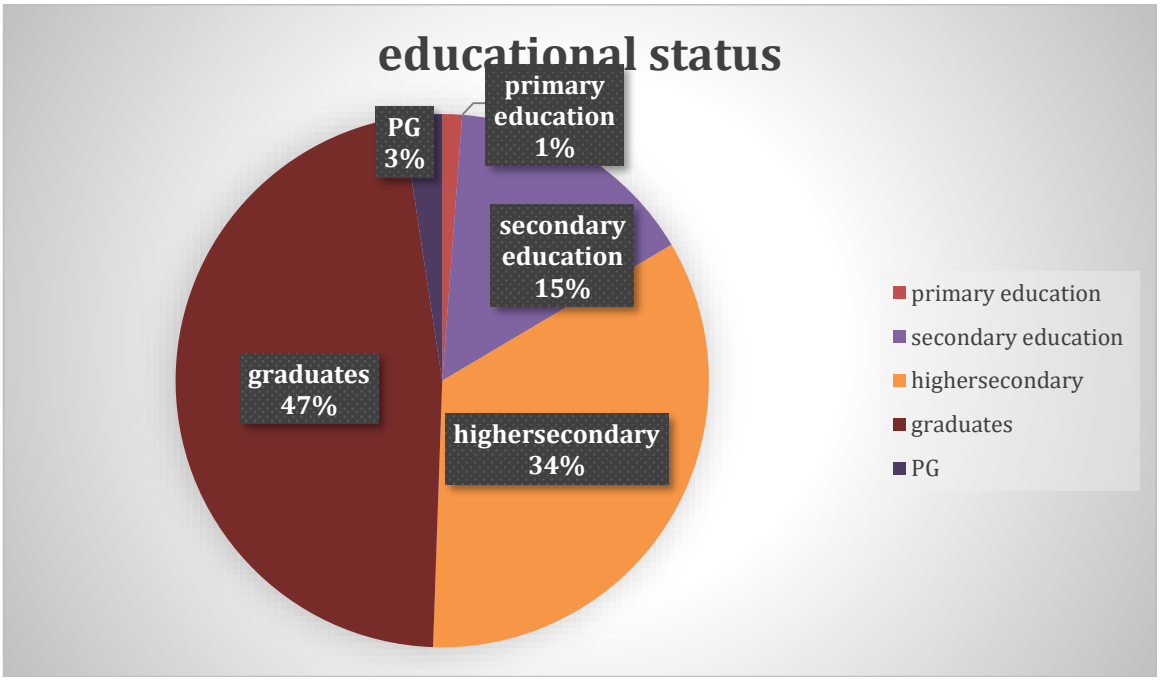
Occupation:

3 (3.5%) were unemployed, 65 (54.7%) were student, 2 (2.4%) were unskilled labourers, 15 (17.6%) were semi-skilled labourers, 3 (3.5%) were skilled labourers, 7 (8.2%) were highly skilled labourers.



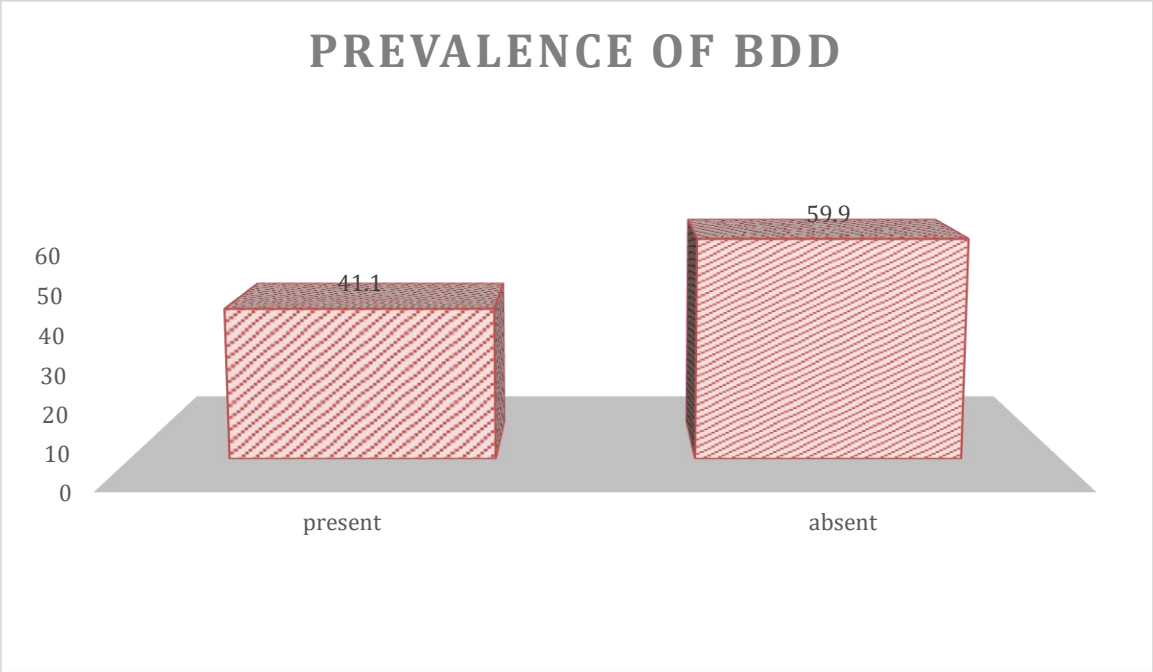
Educational status:

Out of the 85 patients taken up for the study, one patient (1.2%) had only primary education, 13(15.3%) had secondary education, 29(34.1%) had higher secondary education, 40 (47.1%) were graduates and 2 (2.4%) were post graduates.



Prevalence of BDD according to DCQ, BDDQ, YBOCS -BDD:

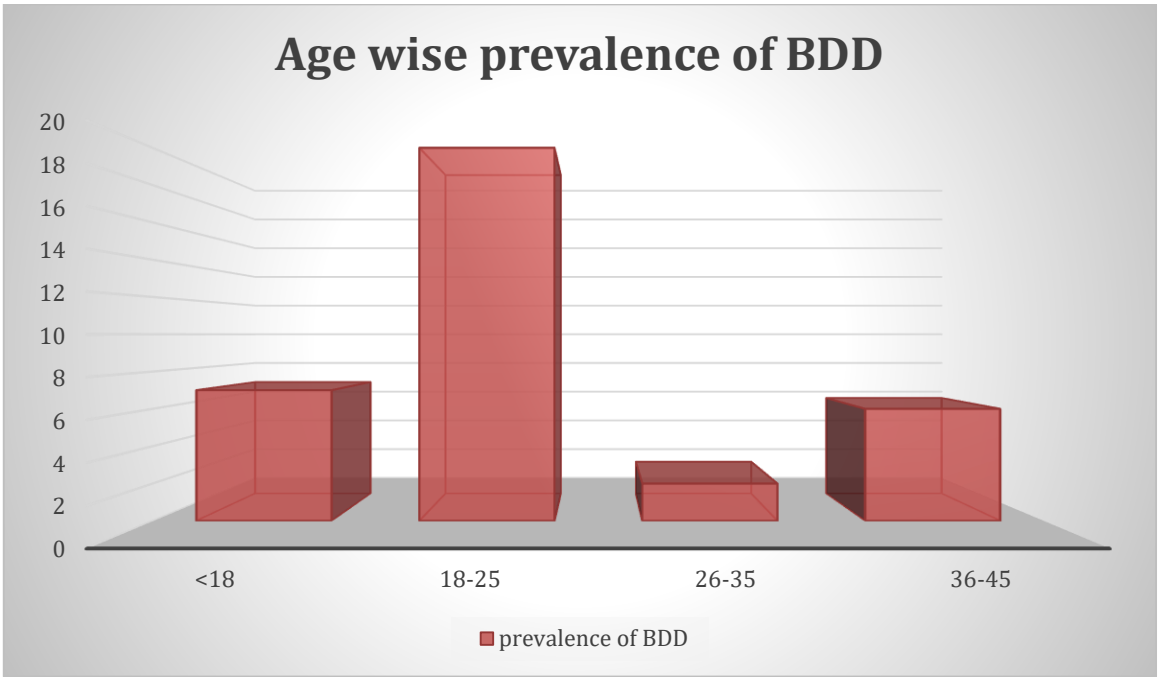
Among the 85 people taken for the study, 41.1% (n=35) had BDD diagnosed with administration of DCQ, BDDQ, YBOCS- BDD



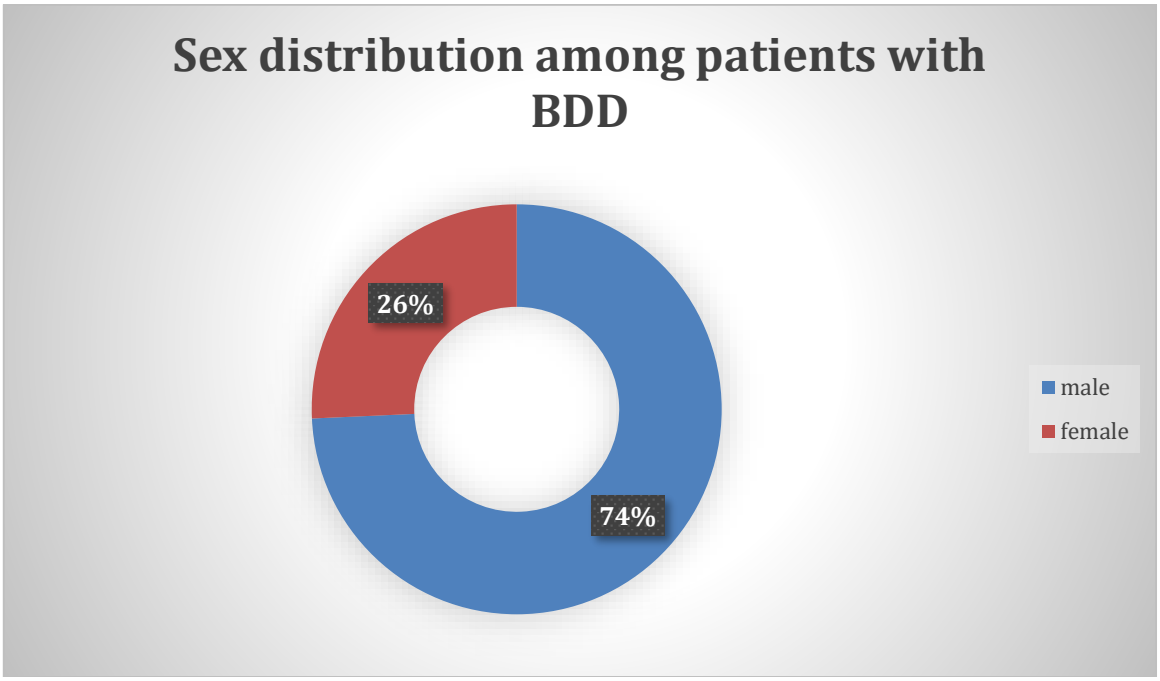
Sociodemographic factors distribution among patients with BDD:

Distribution of age in patients with BDD:

The age range of patients with BDD ranges from 17 to 45 with a mean age of 23.7. 20% (n=7) patients were less than 18 years of age, 20(57.1%) patients belong to the age group of 18-25, 2 (5.7%) people belong to the age group of 26-35, 6(17.1%) are in the age group of 36-45 years.

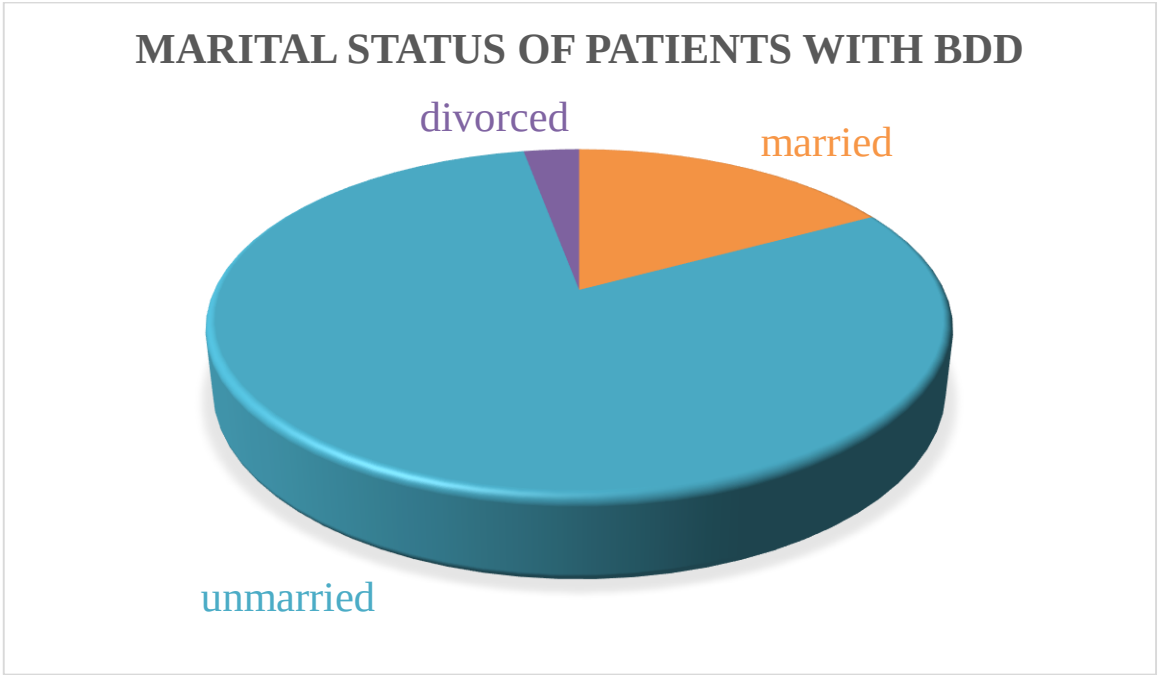


Sex distribution among patients with BDD:



Of the 35 patients with BDD, 26 male(74.3%), 9 female (25.7%).

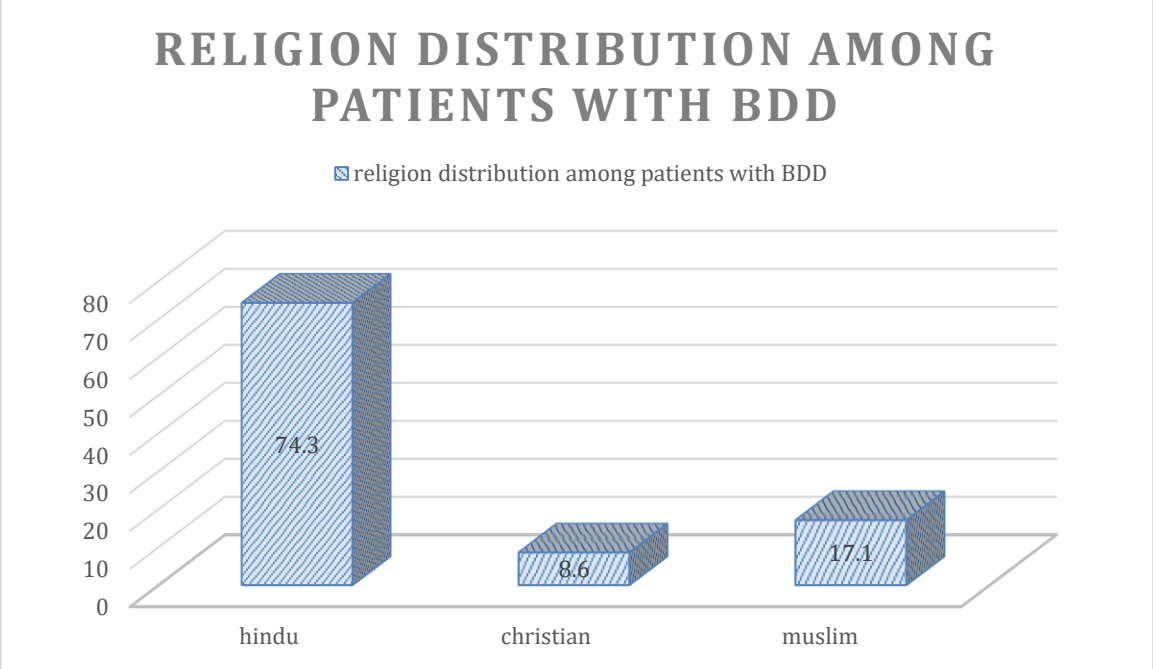
Marital status of patients with BDD:



Among the 35 patients with BDD, 6 patients (17.1%) are married,

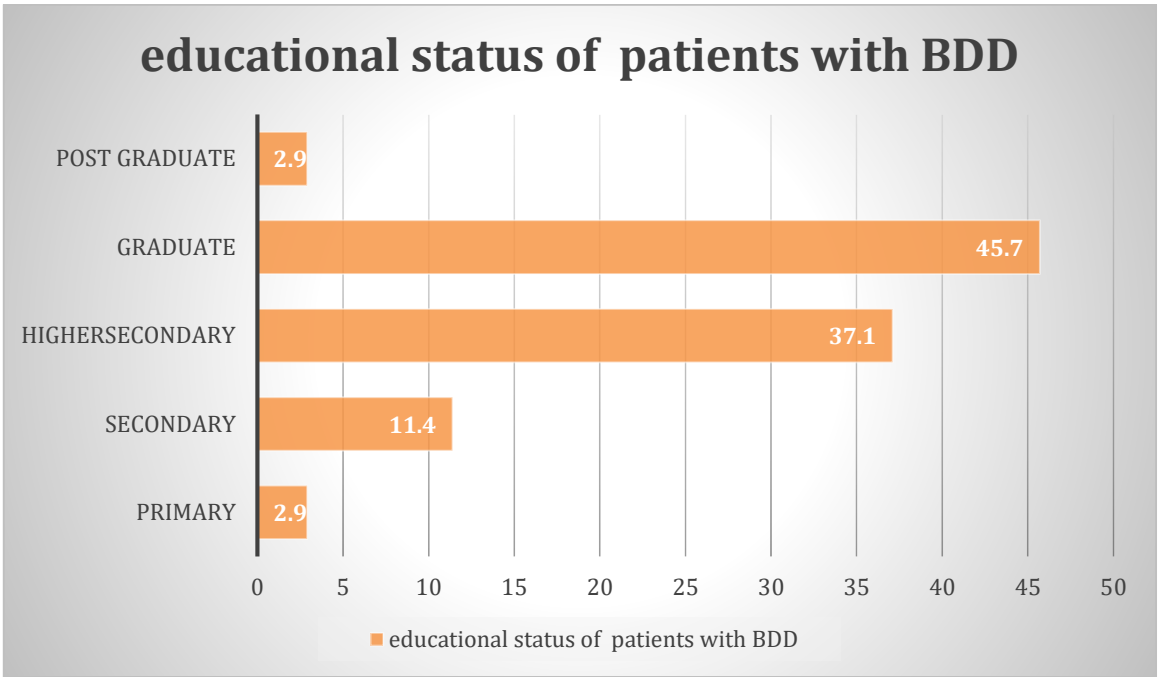
28(80%) are unmarried, 1 patient (2.9%) was a divorcee.

Religion distribution of patients with BDD:



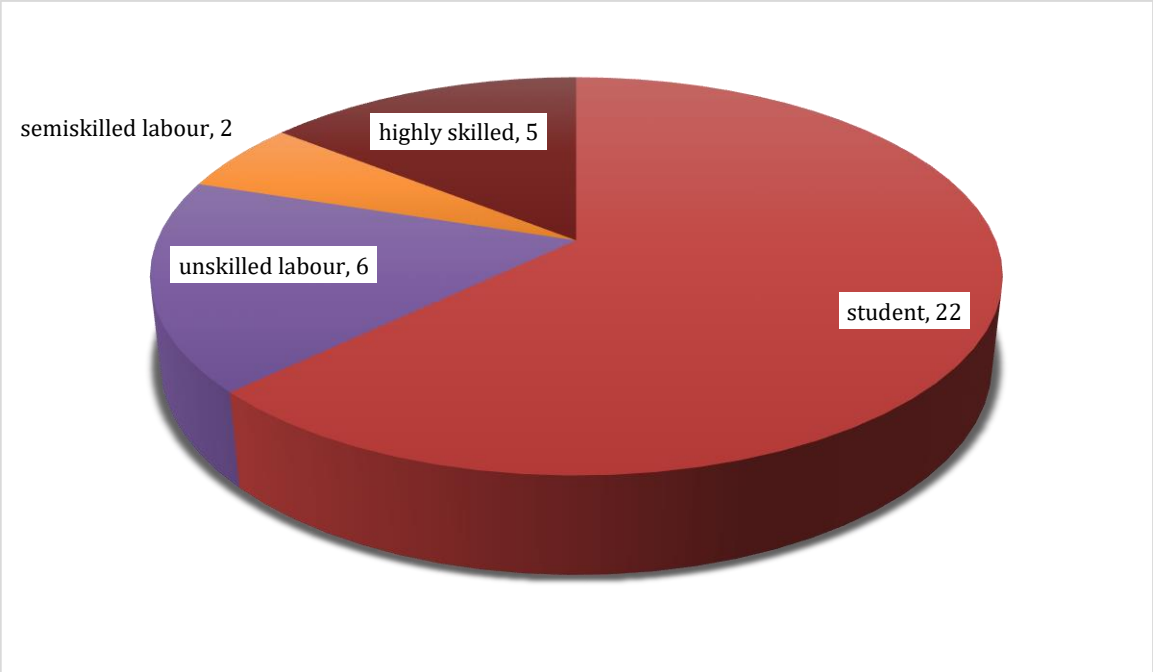
Out of the 35 patients with BDD, 74.3% (n=26) patients belonged to Hinduism, 8.6%(n=3) followed Christianity, 6(17.1%) followed Islam.

Education status of patients with BDD:



Out of the 35 patients with BDD, 1 patient each (2.9%) had primary education and postgraduate qualification. 4(11.4%) had secondary education, 13(37.1%) had higher-secondary education, 16 (45.7%) were graduates.

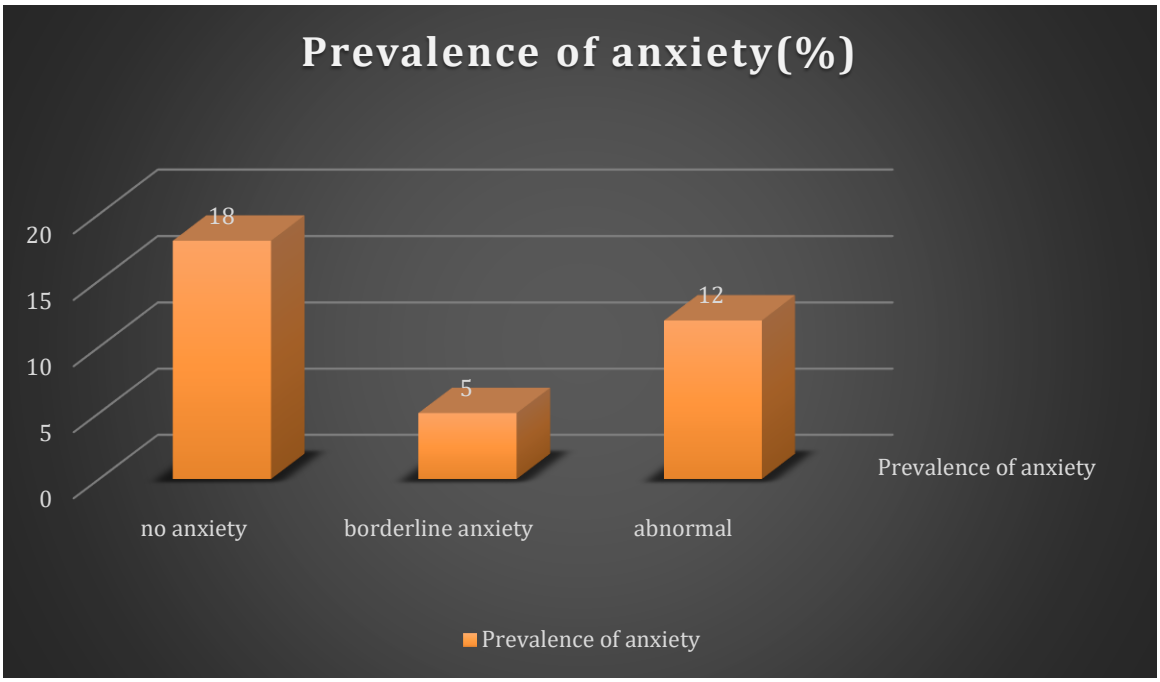
Occupational status of patients with BDD:



Among the 35 patients with BDD, 62.9% (n=22), were students, followed by 17.1%(n=6) did semiskilled work, 14.3%(n=5) did highly skilled work and 5.7%(n=2) did skilled labour.

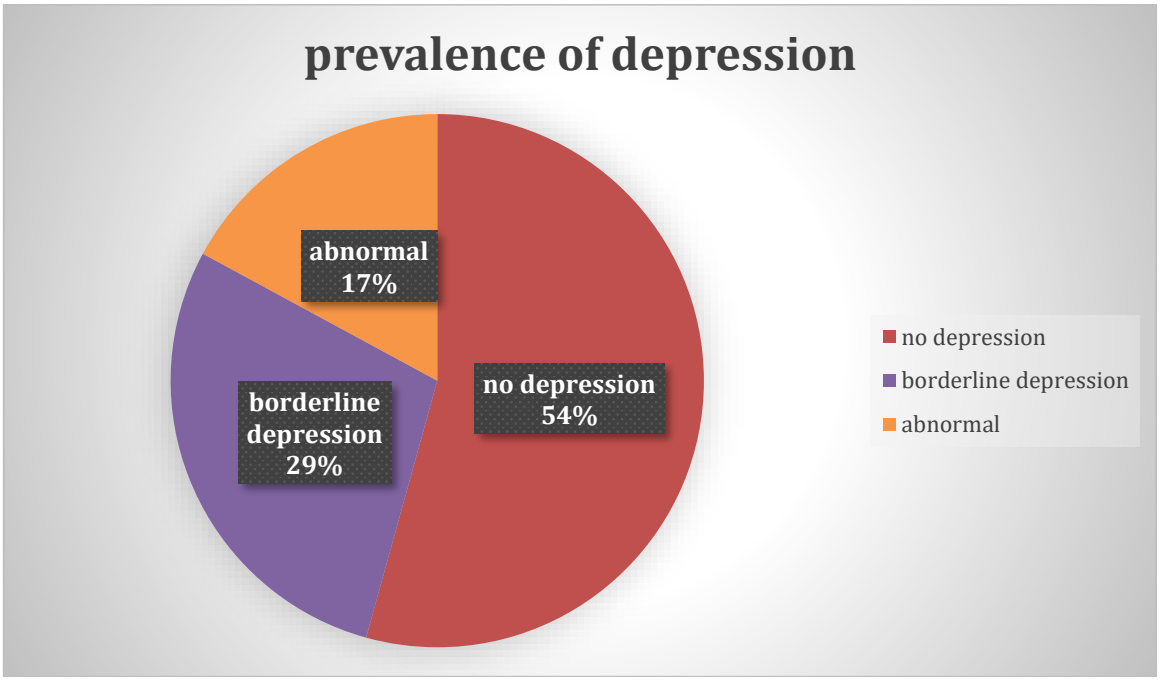
Prevalence of anxiety among the patients with BDD:

Those 35 patients who had BDD, were administered HADS-A questionnaire and of them, 17 patients (48.6%) had anxiety. Of which 5 people (14.3%) had borderline abnormality and 34.3%(n=12) have severe abnormality in HADS -A score.



Prevalence of depression among the patients with BDD:

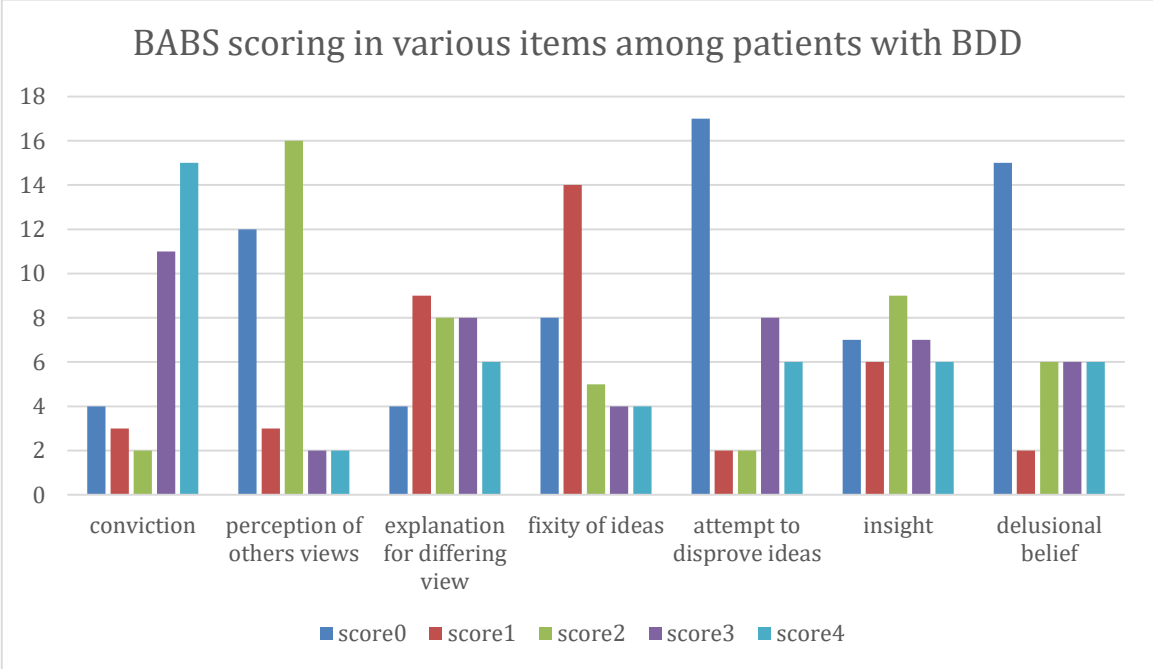
Those 35 patients who had BDD, were administered HADS-D questionnaire and of them, 54.3% (n=19) had no depression, 16 patients (45.7%) had depression. Of which 10 people (28.6%) had borderline abnormality and 17.1%(n=6) have severe abnormality in HADS -D score.



Prevalence of BABS score among the patients with BDD:

21 people out of 35 had a babs score >/=9 and 14 patients had a score of less than 9. The total BABS score in this study ranged from 0 -22 with a mean score of 11.83.

Distribution of BABS score question-wise:



Among the 35 patients who had BDD, 11.4%(n=4) scored 0 in conviction, 8.6% (n=3) scored 1, 5.7%(n=2) scored 2, 31.4% (n=11), scored 3, and 42.9% (n=15) scored 4 in conviction.

12 (34.3%) scored 0 in perception of others views, 3(8.6%) scored 1, 16(45.7%) scored2, 2(5.7%) scored 3 and 4 respectively.

Among the 35 patients who had BDD, 11.4%(n=4) scored 0 in explanation for differing views, 25.7% (n=9) scored 1, 22.9%(n=8) scored 2 and 3, and 17.1% (n=6) scored 4 in explanation for differing view.

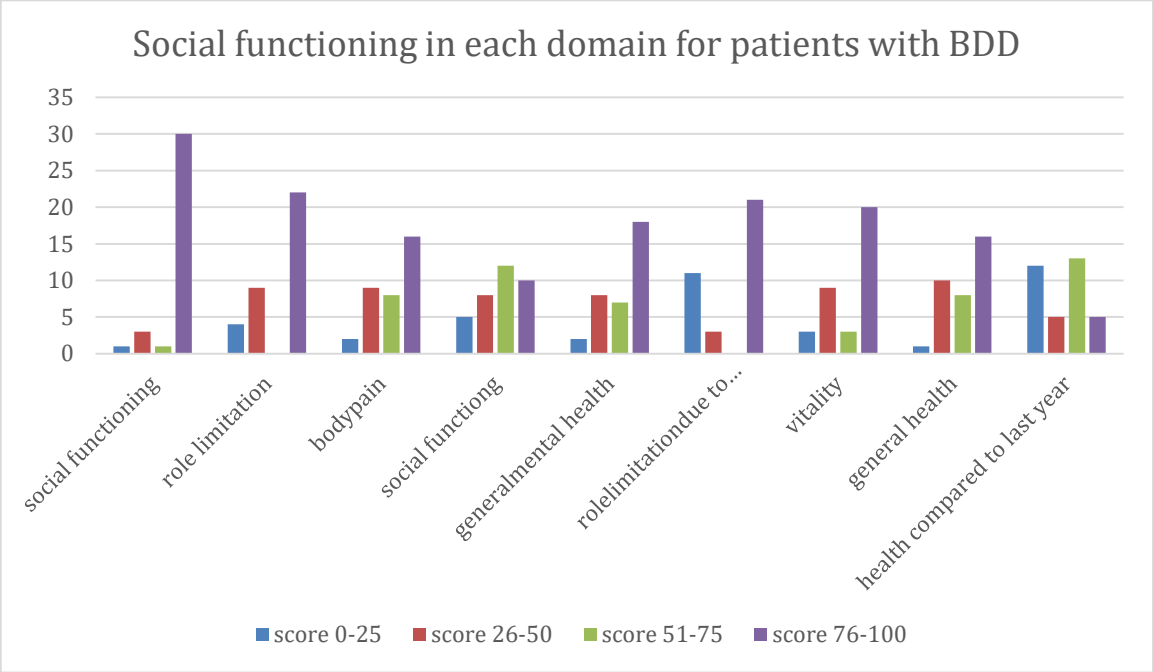
8 (22.9%) scored 0 in fixity of ideas, 14(40%) scored 1, 5(14.3%) scored2, 4(11.4%) scored 3 and 4 respectively.

Among the 35 patients who had BDD, 48.6%(n=17) scored 0 in attempt to disprove ideas, 5.7% (n=2) scored 1 and2 and 8(22.9%) scored 3, and 17.1% (n=6) scored 4 in attempt to disprove ideas.

7 (20%) scored 0 in insight, 6(17.1%) scored 1, 9(25.7%) scored2, 7(20%) scored 3 and 6(17.1%) scored 4 in insight.

Among the 35 patients who had BDD, 42.9%(n=15) scored 0 in delusional belief 5.7% (n=2) scored 1 6(17.1%) scored 2,3 and 4 respectively in delusional belief.

<u>SF36 functioning:</u>



Among the 35 patients who have BDD,

Among the 35 patients with BDD,1 patient each(2.8%) scored between 0 to 25 and 51 to 75.

3 patients (8.5%) scored between 26 to 50 and 30 patients (85.7%) scored between 76 and 100 in physical functioning.

Among the 35 patients with BDD,4 patients (11.4%) scored between 0 to 25 and 9 patients (25.7)scored between 26 to 50.And 22 patients (62.8%) scored between 76 and 100 in role limitation.No patients scored between 51 to 75.

Among the 35 patients with BDD,2 patient each(5.71%) scored between 0 to 25. 9 patients (25.7%) scored between 26 to 50.8 patients 22.8%) scored between 51 to 75.16 patients (45.7%) scored between 76 and 100 in bodily pain.

Among the 35 patients with BDD,5 patients (14.2%) scored between 0 to 25. 8 patients (22.8%) scored between 26 to 50. 12 patients(34.2%) scored between 51 to 75. 10 patients (28.5%) scored between 76 and 100 in social functioning.

Among the 35 patients with BDD,2 patients (5.7%) scored between 0 to 25. 8 patients (22.8%) scored between 26 to 50. 7 patients (20%) scored between 51 to 75. 18 patients (51.4%) scored between 76 and 100 in general mental health.

Among the 35 patients with BDD,11 patients (31.4%) scored between 0 to 25. 3 patients (8.5%) scored between 26 to 50. No patients scored between 51 to 75. 21 patients (60%) scored between 76 and 100 in Role limitation due to emotional problem.

Among the 35 patients with BDD,3 patients (3.5%) scored between 0 to 25. 9 patients (10.6%) scored between 26 to 50. 4(4.7%) patients scored between 51 to 75. 69 patients (81.2%) scored between 76 and 100 in vitality

Among the 35 patients with BDD,1 patient(2.8%) scored between 0 to 25. 10 patients (28.5%) scored between 26 to 50. 8 patients (22.8%) scored between 51 to 75. 16 patients (45.7%) scored between 76 and 100 in general health perceptions.

Among the 35 patients with BDD,12 patients each(34.2%) scored between 0 to 25. 5 patients (14.2%) scored between 26 to 50. 13 patients (37.1%%) scored between 51 to 75. 5 patients (14.2%) scored between 76 and 100 in health compared to last year

Cross tabs between sociodemographic factors and presence of BDD:

Table 1: Cross tabulation between sociodemographic factors and BDD:

s.no	Variable		BDD Present	BDD absent	P value
1.	Age	<18	12	15	0.212
		18-25	15	24	
		26-35	2	8	
		36-45	6	3	
2.	Sex	Male	26	29	0.122
		Female	9	21	
3.	Marital status	Married	6	11	0.431
		Unmarried	28	39	
		Separated	1	0	
4.	Religion	Hindu	26	42	0.190
		Christian	3	5	
		Muslim	6	2	
		Others		1	
5.	Occupation	Unemployed	0	3	0.221
		Student	22	33	
		Unskilled	0	2	
		Semiskilled	6	9	
		Skilled	2	1	
		Highly skilled	5	2	
6.	Educational status	Primary	1	0	0.689
		Secondary	4	9	
		Higher secondary	13	16	
		Graduate	16	24	
		Post graduate	1	1	

There are no significant difference between sociodemographic factors and the presence and absence of BDD. The distribution of age, sex, marital status, education and occupation are distributed similarly between the two groups-those with BDD and those without BDD.

Cross tabs between BDD and Presence of Anxiety:

Table:2 Cross tabs between presence of BDD and presence of anxiety:

S.no	BDD	Anxiety Present	Anxiety Absent	Chisquare value	P value
1.	Present	17	18	30.357	<0.001
2.	Absent	0	50		

Out of the 35 patients who had BDD, 17 (48.6%) had anxiety and among the 50 patients who did not have BDD, none were suffering from anxiety. There is more anxiety in those who are suffering from BDD and the difference is statistically significant with p value <0.001

Cross tabs between BDD and Presence of depression:

Table:3 Cross tabs between presence of BDD and presence of depression:

S.no	BDD	Depression Present	Depression Absent	Chisquare value	P value
1.	Present	16	19	28.157	<0.001
2.	Absent	0	50		

Out of the 35 patients who had BDD, 16(45.7%) had depression and among the 50 patients who did not have BDD, none were suffering from depression. There is more depression in those who are suffering from BDD and the difference is statistically significant with p value <0.001.

Cross tabs between Belief of body dysmorphia in patients with and without BDD:

S.no	Belief parameter		BDD present	BDD absent	Chi square value	P value
1.	Conviction	Present	31	1	66.636	<0.001
		Absent	4	49		
2.	Perception of others views	Present	23	1	42.107	<0.001
		Absent	12	49		
3.	Explanation of differing views	Present	31	0	69.709	<0.001
		Absent	4	50		
4.	Fixity of ideas	Present	27	0	56.527	<0.001
		Absent	8	50		
5.	Attempt to disprove ideas	Present	18	0	32.623	<0.001
		Absent	17	50		
6.	Insight	Present	28	0	59.649	<0.001
		Absent	7	50		
7.	Delusional belief	Present	20	0	37.363	<0.001
		Absent	15	50		

Presence of BDD and Conviction in BABS scale:

Among the 50 people without BDD, 49 scored 0 in conviction and only one scored 1, while among the 35 who had BDD, 4 (11.7%) had a score of 0 on conviction, while 31 (88.6%) had a score of 1 or above. Those with BDD had a higher scoring on conviction item in BABS scale when compared to those who did not have BDD and this difference was statistically significant with a chi square value of 66.636, p value =<0.001

Presence of BDD and perception of others views in BABS scale:

Among the 50 people without BDD, 49 scored 0 in perception of others views and only one scored 1, while among the 35 who had BDD, 12 (34.3%) had a score of 0 on perception of others views, while 23 (65.7%) had a score of 1or above. Those with BDD had a higher scoring on perception of others views in BABS scale when compared to those who did not have BDD and this difference was statistically significant with a chi square value of 42.107, p value =<0.001

Presence of BDD and explanation of differing views in BABS scale:

Among the 50 people without BDD, all 50 scored 0 in explanation of differing views, while among the 35 who had BDD, 4 (11.4%) had a score of 0 on explanation of differing views, while 31 (88.6%) had a score of 1or above. Those with BDD had a higher scoring on explanation of differing views in BABS scale when compared to those who did not have BDD and this difference was statistically significant with a chi square value of 69.709 p value =<0.001

Presence of BDD and fixity of ideas in BABS scale:

Among the 50 people without BDD, all 50 scored 0 in fixity of ideas, while among the 35 who had BDD, only 8 (22.9%) had a score of 0 on fixity of ideas, while 27(87.1%) had a score of 1or above. Those with BDD had a higher scoring on fixity of ideas in BABS scale when compared to those who did not have BDD and this difference was statistically significant with a chi square value of 56.527 and a p value =<0.001

Presence of BDD and attempt to disprove ideas in BABS scale:

Among the 50 people without BDD, all 50 scored 0 in attempt to disprove ideas, while among the 35 who had BDD, only 17 (48.6%) had a score of 0 on attempt to disprove ideas, while 18 (51.4%) had a score of 1or above. Those with BDD had a higher scoring on attempt to disprove ideas in BABS scale when compared to those who did not have BDD and this difference was statistically significant with a chi square value of 32.623 and a p value =<0.001.

Presence of BDD and insight in BABS scale:

Among the 50 people without BDD, all 50 scored 0 in insight, while among the 35 who had BDD, only 7 (20%) had a score of 0 on insight, while 15 (51.4%) had a score of 1or above. Those with BDD had a higher scoring on insight in BABS scale when compared to those who

did not have BDD and this difference was statistically significant with a chi square value of 59.65 and a p value =<0.001.

Presence of BDD and delusional belief in BABS scale:

Among the 50 people without BDD, all 50 scored 0 in delusional belief, while among the 35 who had BDD, only 15 (42.9%) had a score of 0 on delusional belief, while 20 (57.1%) had a score of 1or above. Those with BDD had a higher scoring on delusional belief in BABS scale when compared to those who did not have BDD and this difference was statistically significant with a chi square value of 37.363 and a p value =<0.001.

Psychosocial functioning and presence of BDD:

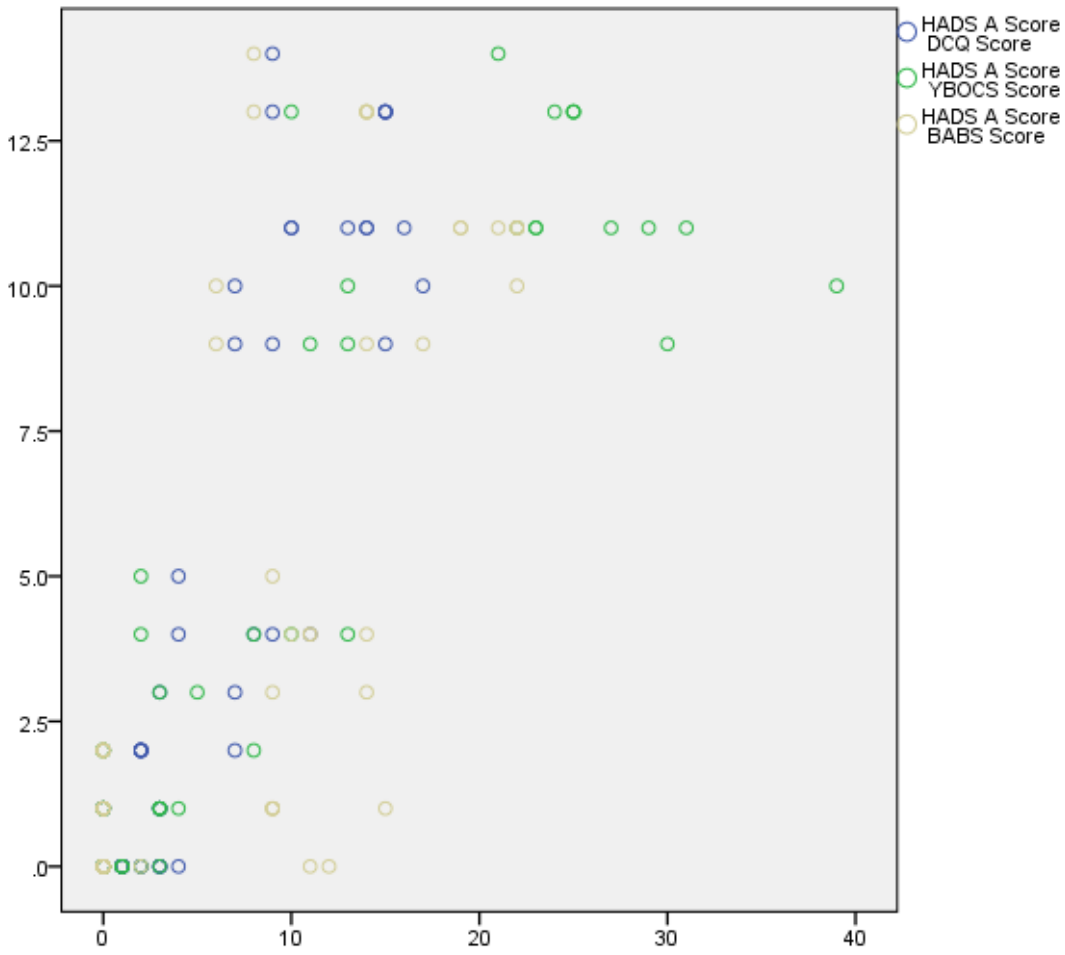
The social functioning as measured by SF 36 was compared with the presence or absence of BDD in each domain.

S.no	Social functioning as with SF 36 in various domains		BDD present	BDD absent	Chi square value	P value
1.	Physical functioning	0-25	1	0	7.589	0.055
		26-50	3	0		
		51-75	1	0		
		76-100	30	50		
2.	Role limitation	0-25	4	0	21.925	<0.001
		26-50	9	0		
		51-75	0	0		
		76-100	22	50		
3.	Bodily pain	0-25	2	0	34.957	<0.001
		26-50	9	0		
		51-75	8	0		
		76-100	16	50		
4.	Social functioning	0-25	5	0	50.595	<0.001
		26-50	8	0		
		51-75	12	0		
		76-100	10	50		
5.	General mental health	0-25	2	0	30.357	<0.001
		26-50	8	0		
		51-75	7	0		
		76-100	18	50		
6.	Role limitations due to emotional problems	0-25	11	0	23.944	<0.001
		26-50	3	0		
		51-75	0	0		
		76-100	21	50		
7.	Energy/ vitality	0-25	3	0	23.266	<0.001
		26-50	9	0		
		51-75	3	1		
		76-100	20	49		
8.	General health perceptions	0-25	1	0	34.957	<0.001
		26-50	6	0		
		51-75	1	0		
		76-100	18	50		
9.	Health compared to last year	0-25	12	0	44.647	<0.001
		26-50	5	0		
		51-75	13	9		
		76-100	5	41		

In all the domains except health compared to last year, all 50 those who did not have BDD, scored >76-100. The 35 patients who had BDD, though majority patients scored between 75- 100, a significant proportion of patients scored considerably low scores on all domains. This difference that BDD patients have a low score on SF 36 scale compared to patients without BDD is statistically significant with a p value <0.001

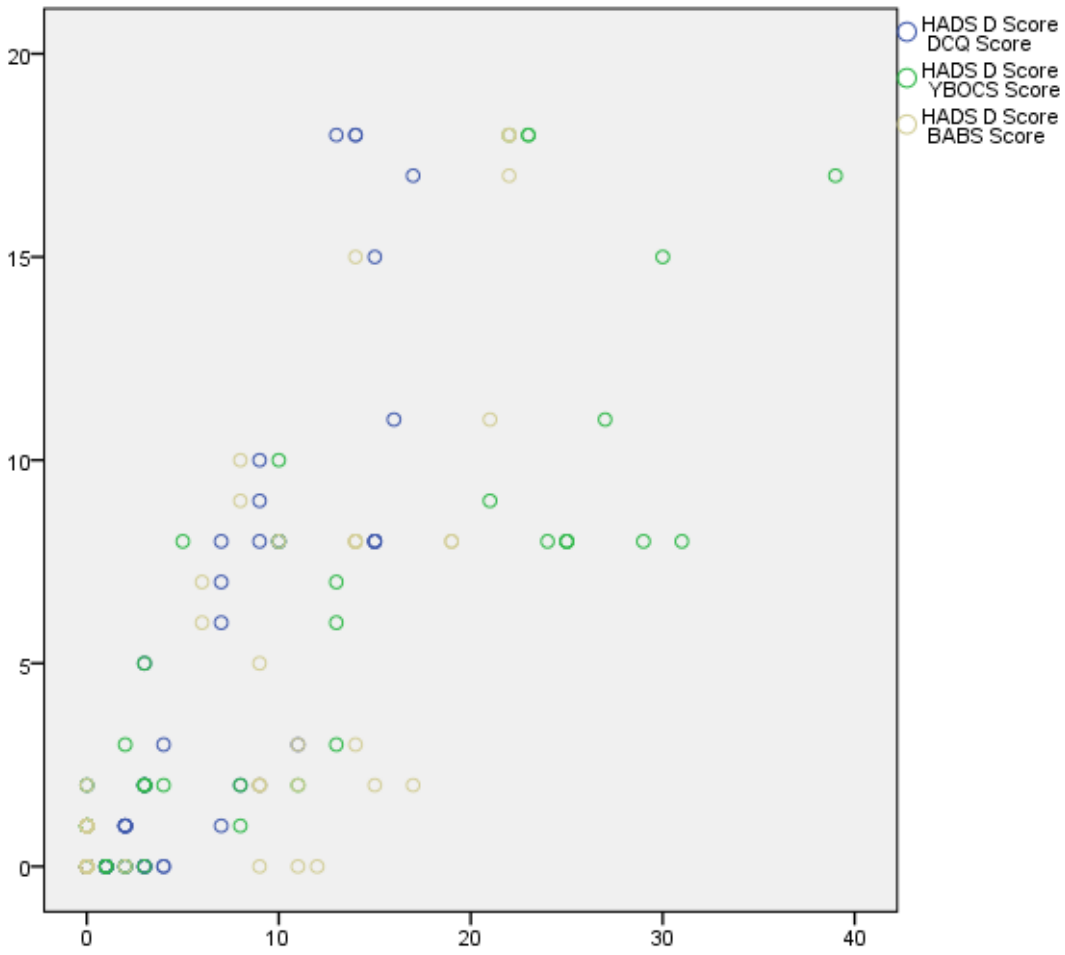
Correlations between disease factors as measured by DCQ score, YBOCS score & BABS score with Anxiety:

As YBOC score, BABS score and DCQ score increases, the anxiety scores also increase. This shows a statistically significant positive correlation with a r value of +0.906, +0.785, and +0.905 respectively with a pvalue <0.001.



Correlations between disease factors as measured by DCQ score, YBOCS score & BABS score with depression

As YBOC score, BABS score and DCQ score increases, the depression scores also increase. This shows a statistically significant positive correlation with a r value of +0.878, +0.827, and +0.873 respectively with a pvalue <0.001.



s.no	Disease variables	Anxiety		Depression	
		R (correlation coefficient)	P value	R (correlation coefficient)	P value
1.	DCQ score	+0.905	<0.001	+0. 873	<0.001
2.	BABS score	+0.786	<0.001	+0. 827	<0.001
3.	YBOCS score	+0.906	<0.001	+0. 878	<0.001

Discussion

Discussion:

Among the 85 patients screened for BDD 35 patients were identified to have BDD by the scales Dysmorphic concern questionnaire, BDD YBOCS and Body Dysmorphic disorder questionnaire. This accounts to almost 41.2%.

The above result was comparable with prevalence results stated by Bjornson et al 9% to 12% in dermatology settings, 3% to 53% in cosmetic surgery settings(1)

This study showed similar results with that of a study in China by Yanhui Liao et al in 487 medical students in which the results reported about one-third of participants (32.5%) admitted that they were very concerned about some aspect of their appearance not correlating to weight.

Our study also showed similar results to the study by Maria José Azevedo de Brito et al who studied the prevalence and severity of BDD symptoms in patients seeking abdominoplasty. The prevalence of BDD symptoms was 57%.(17)

Ather M Taqui et al reported that out of the 156 students, a total of 78.8% of the students reported dissatisfaction with some aspect of their appearance. This differed from the present study (13).

The present study results differed from the results of study done by Harikrishnan et al as it yielded only 7.7 % i.e 13 out of 195 nursing students had dysmorphic concerns. Our study results also differed from

the study conducted in German college students 5.3%(11) , American college students 4%, Turkish college students 4.8%, Australian university students 2.3%, American college students 2.5% and Pakistani medical college students 5.8% (14)

With better education patients have better insight over their symptoms and also they could understand the questionairres better,the study was done in a sample of medical students, whereas the present study was done in patients attending Cosmetology OPD. This is the reason for the variation.And usually institution based prevalence studies yield much higher results.

Age

Distribution of age:

In the present study the age range of patients with BDD ranges from 17 to 45 with a mean age of 23.7. 20% (n=7) patients were less than 18 years of age, 20(57.1%) patients belong to the age group of 18-25, 2 (5.7%) people belong to the age group of 26-35, 6(17.1%) are in the age group of 36-45 years.

In a Singaporean study by Goh Chin Guan Jeremy et al ,Fifty-two patients who received cosmetic rhinoplasty were approached and forty-seven (90%) agreed to and completed the interview. Of the 47 patients who participated in the study, seven (15%) were identified to have possible BDD. The BDD-group (mean age=26.0) was significantly

younger (p=0.003) than the non-BDD group (mean age=32.0).The mean age of participants was 31.1 years. In the present study the mean age was 23.7 which was similar to the above study,(35)

The above findings from the present were not similar to the results inferred from overall sample by Phillips et al., 68.5% of the subjects were female, and the mean age was in the early 30s; 10.5% were 18 or younger and the sample was racially/ethnically diverse.This is because of the variation in the treatment seeking behaviour in western and Indian patients(3)

Sex-wise distribution of the sample:

Of the 85 patients in the study, 55(64.7%) were male and 30(37.3%) were female. Of the 35 patients with BDD, 26 male(74.3%), 9 female (25.7%). This differed from the findings of Phillips et al. where in the overall sample, 68.5% of the subjects were female. This is because of the variation in the treatment seeking behaviour between western and Indian patients(3)

Our study was not comparable with the two population-based studies of BDD (one conducted in Germany; n=2552, and the other conducted in the US; n=2048) with respect to gender ratio found a point prevalence of 2.5% of women vs 2.2% of men, and 1.9% of women and 1.4% of men, respectively.This is because of the present study was done in institution whereas the former was carried out in general population(1,15)

However gender difference wasn't of much significance and not apparent in the course of BDD, with similar illness course and outcomes for males and females.(10,24)

Religion and BDD:

Majority of the patients 68(80%) were hindus, 8(9.4%) were Christians, 8(9.4%) were muslims and one (1.2%) belonged to other religion.Religion was not significant for the study. Out of the 35 patients with BDD, 74.3% (n=26) patients belonged to Hinduism, 8.6%(n=3) followed Christianity, 6(17.1%) followed Islam. And the illustration is similar to those given by Mayville et al who said that the interaction between gender and ethnicity was not significant(25).

Marital Status

Among the 85 patients taken up for the study, 17 (20%) were married, 67(78.8%) were unmarried and one (1.2%) was separated. Among the 35 patients with BDD, 6 patients (17.1%) are married, 28(80%) are unmarried, 1 patient (2.9%) was a divorcee.The present study results were similar to the two population-based studies which found that individuals with BDD are less likely to be married than those without BDD,(15,22) and are more likely to be divorced. Individuals with BDD are also significantly more likely to be unemployed than the general population. (15,22)

Out of the 85 patients,3 (3.5%) were unemployed, 65 (54.7%) were student, 2 (2.4%) were unskilled labourers, 15 (17.6%) were semi-skilled labourers, 3 (3.5%) were skilled labourers, 7 (8.2%) were highly skilled labourers. Among the 35 patients with BDD, 62.9% (n=22), were students, followed by 17.1%(n=6) did semiskilled work, 14.3%(n=5) did highly skilled work and 5.7%(n=2) did skilled labour. The results of the present study were similar to the results by Koran et al who found that BDD patients are more likely to be unemployed than the general population. (15,22)

The above study results were similar to the study by Phillips et al who studied in a sample of 200 individuals with BDD, 37.6% were currently unemployed.(24).

Out of the 85 patients taken up for the study, one patient (1.2%) had only primary education, 13(15.3%) had secondary education, 29(34.1%) had higher secondary education, 40 (47.1%) were graduates and 2 (2.4%) were post graduates. Out of the 35 patients with BDD, 1 patient each (2.9%) had primary education and postgraduate qualification. 4(11.4%) had secondary education, 13(37.1%) had higher-secondary education, 16 (45.7%) were graduates.. Our study differed from the findings of David Veale et al because in the present study was carried out in a tertiary care hospital whereas the the former

was carried out in Florence a city renowned for its art in Italy. To our knowledge, no occupational or educational association has been identified previously in patients with body dysmorphic disorder.(48)

Those 35 patients who had BDD, were administered HADS - A questionnaire and of them, 17 patients (48.6%) had anxiety. Of which 5 people (14.3%) had borderline abnormality and 34.3%(n=12) have severe abnormality in HADS -A score.

Our objective was to find the comorbidities,The study yielded that among 35 patients with BDD 17(48.6%) patients had anxiety

This n value was somewhat similar to the study by Fathololoomi MR et al, in which 41 patients were identified to have BDD.And 11 (26.8%) had concurrent anxiety. The percentage varies because of the sample size(16)

Social anxiety disorder is another disorder that co-occurs in about 40% patients suffering from BDD.This was similar to the results from the present study.(20)

G Villareal et al's results inferred that Body dysmorphic disorder was commonest in patients with social phobia (11%) (38) This varies with the present study because the samples were taken in different settings.

The present study yielded that among 35 patients with BDD 16(45.7%) patients had depression Among 41 BDD patients studied by Fathololoomi MR et al, 12 (29.3%) had concurrent depression(16). Though the n value is some what similar ,the percentage varies because of the sample size.

Phillips & Diaz et al 1997 & 2005d have found the lifetime rate of major depressive disorder in BDD at 75% (59)

Katherine et al in 2004 studied depression, anxiety and somatic concerns in BDD, in 75 patients who were diagnosed BDD using BDD – YBOCs and assessed depression using Symptoms questionnaire for depression. 61.3% had depression while in our study 41.7% had depression. This difference could possibly be due to the difference in questionnaire used as in the current study we used HADS(60).

Katherine et al studied tanning in BDD, in 2006 assesed 200 patients using BDD YBOCS found 42% had comorbid mood disorder.(61)

In the study by Jennifer et al shows that depression and anxiety are higher in patients with bdd,ed, when compared with those without bdd.(62) This is in accordance with our study where depression and anxiety are more in BDD than those without bdd with the difference being significant with a p value <.001

In the study by Giulio Perugi et al they have found out the prevalence of anxiety and depression in patients with bdd were 74 % and 72%

respectively. This is higher than the prevalence of anxiety and depression in our study and this difference could be due to different scale used for assessment.(63)

In the study by Vinkers et al in BDD patients a comorbid depressive disorder was present in 35 patients (78%) and a comorbid anxiety disorder in 26 patients (58%)(64). Of the anxiety disorders, social phobia was the most common, with a prevalence of 27%. The average score on the BDD-YBOCS was 22.5 points.(64)The BDD-YBOCS score was significantly higher in patients with a comorbid obsessive-compulsive disorder (35.7 points; $p = 0.01$). this is in accordance with our study, where patient with higher ybocs score have more depression and anxiety and there is a significant positive correlation with a r value of +0. 878 And p value of <0.001 for depression and a r value of +0.906 And p value of <0.001 for anxiety.

In the study by Jane L. Eisen et al, they compared insight in 64 adult outpatients with DSM-IV OCD and 85 adult outpatients with DSM-IV BDD using the Brown Assessment of Beliefs Scale [BABS]. BDD patients also had significantly poorer insight on the following components of insight: conviction that the belief is accurate, perception of other's views of the belief, explanation for differing views, willingness to consider that the belief is wrong, and recognition that the belief has a

psychiatric/psychological cause. Poorer insight was significantly positively correlated with more severe symptoms of the disorder only in the BDD group. In our study also we had patients with bdd score significantly higher in all domains of BABS than those with out BDD.(65,66)

In a study by Katharine etal, it was found that BDD is associated with significantly poor psychosocial functioning and mental health related quality of life in a broad range of domains. They had taken 176 patients and were assessed using SF36.(48) The differences between individuals with BDD and the norms are are very large and typically several standard deviation units below normative scores. Scores on SF 36 are 0.4 to 0.7 units poorer than for depression. It was also found that mental health related quality of life was 1.8 standard deviations less than normal. Our study is in accordance with this in the aspect that patients with BDD had poor functioning in the domains of physical functioning, bodily pain, social functioning, general mental health, role limitation due to emotional problems, energy/ vitality, general health perception, health compared to last year while those with high levels of functioning. Thus the social functioning is impaired in BDD patients when compared to normal patients is emphasized. Impairment in functioning can range from moderate to extreme(48), in our study, all patients without BDD (n=50) , had normal functioning and only one had mild impairment in energy/

vitality. In health compared to last year, 41 out of 50 that don't have BDD, had good function and 9 had mild impairment. But in those with BDD, moderate and severe impairment in functioning was found in 30 out of 35 and only 5 had near normal functioning and this difference in functioning of the patients was found to be statistically significant(44,48) Another study by Elizabeth et al 141 patients were analysed by Range of Impaired functioning, and <50% were working full time 22.7% receiving disability pay. 39% of the sample were not working because of psychopathology in the past months. Those who were not working in the past month had chronic or severe BDD they were found to have less education, severe depression and poor current social functioning and quality of life(28,67). Similarly in our study as the scores on YBOCS-BDD are higher the social functioning as assessed by SF36 were considerably lower indicating a poor function and the correlation value r=-0.74 p value =0.01

Katharine et al in her 2006 study, examined 200 patients with BDD and studies the effect of gender differences.(3)Men had poor GAF scores, less likely to be working. In our study all the patients were male and they had a poor function when compared to those without BDD.(68)

Limitations

LIMITATIONS

- Small study population.
- Hospital based prevalence study so cannot be generalised
- No cases of Muscle Dysmorphia reported, probably specialized scales can be used to detect in future.(69)
- Suicidality was not detected or assessed
- Personality was not detercted or assessed
- Family H/o was not taken into consideration

Conclusions

CONCLUSIONS

In the present study,it was found that BDD was more common in patients attending hospital and comorbidity of anxiety and depression was found to be considerably higher in patients with BDD than those without BDD.

Patients with BDD also had notably poor psychosocial functioning in SF36.

Future Directions :

More studies are needed with comparison group and follow up studies with regard to BDD and other Psychiatric comorbidities.

Interventional Studies can also be taken up in this field of BDD.

The study can be replicated in cosmetic surgery settings.(70)

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66 Katharine A. Phillips, M.D.a,b,c,*, Anthony Pinto, Ph.D.d,e, Ashley S. Hart, Ph.D.a,c, Meredith E. Coles, Ph.D.f, Jane L. Eisen, M.D.b,c, William Menard, B.A.a,b, and Steven A. Rasmussen, M.D.b,c - A Comparison of Insight in Body Dysmorphic Disorder and Obsessive Compulsive Disorder

67 Katharine A. Phillips, MD,[*†] Maria E. Pagano, PhD,[*] William Menard, BA,[†] Christina Fay, BA,[†] and Robert L. Stout, PhD[*‡] - Predictors of Remission From Body Dysmorphic Disorder: A Prospective Study

68 KATHARINE A. PHILLIPS Body dysmorphic disorder: recognizing and treating imagined ugliness

69 Courtney G. Pope,[a] Harrison G. Pope,[b] William Menard,[a] Christina Fay,[a] Roberto Olivardia,[b] and Katharine A. Phillips[a,c,]Clinical features of muscle dysmorphia among males with body dysmorphic disorder

70 Georgina Krebs,1,2 Lorena Fernández de la Cruz,3 David Mataix-Cols2,3,4 Recent advances in understanding and managing body dysmorphic disorder

Annexures

SOCIODEMOGRAPHIC DATA

Age :

Gender : Male / Female

Religion : Hindu/Christian/ Islam/Others

Education :

Primary / Secondary/Higher Secondary /Graduate /Post Graduate

Marital Status : Married/Unmarried /Divorced/Widowed /Separated

Occupation :

Unemployed/Student/Unskilled/Semiskilled/Skilled /Highly Skilled

H/o Prior Psychiatric Consultation : Yes/No

H/o Substance Use or Dependence : Yes/No

Body Dysmorphic Disorder Questionnaire

This questionnaire asks about concerns with physical appearance. Please read each question carefully and circle the answer that is true for you. Also write in answers where indicated.

Name: _____

Today's Date: _____

1. Are you very worried about how you look? Yes No

   If yes: Do you think about your appearance problems a lot and wish you could think about them less? Yes No

   If yes: Please list the body areas you don't like: _____

   _____

   Examples of disliked body areas include: your skin (for example: acne, scars, wrinkles, paleness, redness); hair; the shape or size of your nose, mouth, jaw, lips, stomach, hips, etc; or defects of your hands, genitals, breasts or any other body part.

   (Note: If you answered "No" to either of the above questions, you are finished with this questionnaire. Otherwise, please continue.)

2. Is your main concern with how you look, that you aren't thin enough or that you might get too fat?

   Yes No

3. How has this problem with how you look affected your life? Has it often upset you a lot?

   Yes No

   Has it often gotten in the way of doing things with friends or dating? Yes No

   If yes, describe how: _____

   Has it caused you any problems with school? Yes No

   If yes, what are they? _____

   Are there things you avoid because of how you look? Yes No

   If yes, please list them: _____

4. How much time a day do you usually spend thinking about how you look?

   a. Less than 1 hour a day b. 1-3 hours a day c. More than 3 hours a day

Interpretation of results:

A diagnosis of BDD is likely with the following answers:

- Question 1: Yes to both parts
- Question 3: Yes to any of the questions
- Question 4: Answers b or c

Dysmorphic Concerns Questionnaire

These questions are designed to screen for people with certain concerns that are: (i) often difficult or embarrassing to talk about with their doctor/family/friends; and (ii) often difficult to find the right help for Please read the following questions carefully and answer them by circling the answer which you think is most appropriate for your specific situation:

Have you ever:

S.N		***0***	***1***	***2***	***3***
1	Been very concerned about some aspect of your physical appearance	Not at all	Same as most people	More than most people	Much more than most people
2	Considered yourself misformed or misshapen in someway (e.g.nose/hair/skin/sexual organs/ overall body build)	Not at all	Same as most people	More than most people	Much more than most people
3	Considered your body to be malfunctional in some way (e.g. excessive body odour, flatulence, sweating)	Not at all	Same as most people	More than most people	Much more than most people
4	Consulted or felt you needed to consult a plastic surgeon/dermatologist/physician about these concerns	Not at all	Same as most people	More than most people	Much more than most people
5	Been told by others/doctor that you are normal in spite of you strongly believing that something is wrong with your appearance or bodily functioning	Not at all	Same as most people	More than most people	Much more than most people
6	Spent a lot of time worrying about a defect in your appearance/bodily functioning	Not at all	Same as most people	More than most people	Much more than most people
7	Spent a lot of time covering up defects in your appearance/bodily functioning	Not at all	Same as most people	More than most people	Much more than most people

BODY DYSMORPHIC DISORDER MODIFICATION OF THE Y-BOCS (BDD-YBOCS)©

(Adult version)

For each item circle the number identifying the response which best characterizes the patient during the **past week**.

---

1. TIME OCCUPIED BY THOUGHTS ABOUT BODY DEFECT

How much of your time is occupied by THOUGHTS about a defect or flaw in your appearance [list body parts of concern]?

0 = None
1 = Mild (less than 1 hr/day)
2 = Moderate (1-3 hrs/day)
3 = Severe (greater than 3 and up to 8 hrs/day)
4 = Extreme (greater than 8 hrs/day)

---

2. INTERFERENCE DUE TO THOUGHTS ABOUT BODY DEFECT

How much do your THOUGHTS about your body defect(s) interfere with your social or work (role) functioning? (Is there anything you aren't doing or can't do because of them?)

Y/N Spending time with friends
Y/N Dating
Y/N Attending social functions
Y/N Doing things w/family in and outside of home
Y/N Going to school/work each day
Y/N Being on time for or missing school/work
Y/N Focusing at school/work
Y/N Productivity at school/work
Y/N Doing homework or maintaining grades
Y/N Daily activities

0 = None
1 = Mild, slight interference with social, occupational, or role activities, but overall performance not impaired.
2 = Moderate, definite interference with social, occupational, or role performance, but still manageable.
3 = Severe, causes substantial impairment in social, occupational, or role performance
4 = Extreme, incapacitating.

---

3. DISTRESS ASSOCIATED WITH THOUGHTS ABOUT BODY DEFECT

How much distress do your THOUGHTS about your body defect(s) cause you?

Rate "disturbing" feelings or anxiety that seem to be triggered by these thoughts, not general anxiety or anxiety associated with other symptoms.

0 = None
1 = Mild, not too disturbing.
2 = Moderate, disturbing.
3 = Severe, very disturbing.
4 = Extreme, disabling distress.

For each item circle the number identifying the response which best characterizes the patient during the **past week**.

---

4. **RESISTANCE AGAINST THOUGHTS OF BODY DEFECT**

How much of an effort do you make to resist these THOUGHTS?
How often do you try to disregard them or turn your attention away from these thoughts as they enter your mind?

Only rate effort made to resist, NOT success or failure in actually controlling the thoughts. How much patient resists the thoughts may or may not correlate with ability to control them.

0 = Makes an effort to always resist, or symptoms so minimal doesn't need to actively resist.
1 = Tries to resist most of time.
2 = Makes some effort to resist.
3 = Yields to all such thoughts without attempting to control them but yields with some reluctance.
4 = Completely and willingly yields to all such thoughts.

---

5. **DEGREE OF CONTROL OVER THOUGHTS ABOUT BODY DEFECT**

How much control do you have over your THOUGHTS about your body defect(s)?
How successful are you in stopping or diverting these thoughts?

0 = Complete control, or no need for control because thoughts are so minimal.
1 = Much control, usually able to stop or divert these thoughts with some effort and concentration.
2 = Moderate control, sometimes able to stop or divert these thoughts.
3 = Little control, rarely successful in stopping thoughts, can only divert attention with difficulty.
4 = No control, experienced as completely involuntary, rarely able to even momentarily divert attention.

---

6. **TIME SPENT IN ACTIVITIES RELATED TO BODY DEFECT**

The next several questions are about the activities/ behaviors you do in relation to your body defects.

Read list of activities below to determine which ones the patient engages in.

How much time do you spend in ACTIVITIES related to your concern over your appearance [read activities patient engages in]?

0 = None
1 = Mild (spends less than 1 hr/day)
2 = Moderate (1-3 hrs/day)
3 = Severe (spends more than 3 and up to 8 hours/day)
4 = Extreme (spends more than 8 hrs/day in these activities)

or failure in actually controlling the activities.
How much the patient resists these behaviors may or may not correlate with his/her ability to control them.

some reluctance.
4 = Completely and willingly yields to all behaviors related to body defect.

---

10. **DEGREE OF CONTROL OVER COMPULSIVE BEHAVIOR**

How strong is the drive to perform these behaviors?
How much control do you have over them?

0 = Complete control, or control is unnecessary because symptoms are mild.
1 = Much control, experiences pressure to perform the behavior, but usually able to exercise voluntary control over it.
2 = Moderate control, strong pressure to perform behavior, can control it only with difficulty.
3 = Little control, very strong drive to perform behavior, must be carried to completion, can delay only with difficulty.
4 = No control, drive to perform behavior experienced as completely involuntary and overpowering, rarely able to even momentarily delay activity.

Brown Assessment of Beliefs Scale - (Adult Version)

ID#:_____ Date:_____

Belief (describe principal belief(s) during the past week):_____

_____

For each item circle the number identifying the response which best characterizes the patient **over the past week**. The patient's specific belief can be incorporated into the question--for example, "How convinced are you of this belief--that you are really ugly and deformed?" Optional questions are indicated in parentheses; instructions to the interviewer are italicized.

---

1. Conviction

How convinced are you of these ideas/beliefs? Are you certain your ideas/beliefs are accurate? (What do you base your certainty on?)

0- Completely convinced beliefs are false (0% certainty).
1- Beliefs are probably not true, or substantial doubt exists.
2- Beliefs may or may not be true, or unable to decide whether beliefs are true or not.
3- Fairly convinced that beliefs are true but an element of doubt exists.
4- Completely convinced about the reality of held beliefs (100% certainty).

---

2. Perception of others' views of beliefs

What do you think other people (would) think of your beliefs? How certain are you that most people think your beliefs make sense?

(Interviewer should clarify if necessary that the patient answers this question assuming that others are giving their honest opinion.)

0- Completely certain that most people think these beliefs are unrealistic.
1- Fairly certain that most people think these beliefs are unrealistic.
2- Others may or may not think beliefs are unrealistic, or uncertain about others' views concerning these beliefs.
3- Fairly certain that most people think these beliefs are realistic.
4- Completely certain that most people think these beliefs are realistic.

(Interviewer should not ask this item if responses on item 1 and 2 are the same. (In that case, give the same score as items 1 and 2.)

3. Explanation of differing views

You said that (*fill in response to item 1*), but that (*fill in response to item 2*).
How do you explain the difference between what you think and what others think about the accuracy of your beliefs?
(Who's more likely to be right?)

0- Completely certain that beliefs are unrealistic or absurd (e.g., "my mind is playing tricks on me.")
1- Fairly certain that beliefs are unrealistic.
2- Uncertain about why others don't agree-- beliefs may be unrealistic or others may be wrong.
3- Fairly certain that beliefs are true; view of others is less accurate.
4- Completely certain that beliefs are true; view of others is not accurate.

4. Fixity of Ideas

If I were to question (or challenge) the accuracy of your beliefs, what would your reaction be? Could I convince you that you're wrong? (Would you consider the possibility?)

(If necessary, supply a non-confrontational example.)

(Rate on the basis of whether the patient could be convinced, not whether s/he wishes s/he could be convinced.)

0- Eager to consider the possibility that beliefs may be false; demonstrates no reluctance to entertain this possibility.
1- Easily willing to consider the possibility that beliefs may be false; reluctance to do so is minimal.
2- Somewhat willing to consider the possibility that beliefs may be false, but moderate resistance is present.
3- Clearly reluctant to consider the possibility that beliefs may be false; reluctance is significant.
4- Absolutely refuses to consider the possibility that beliefs may be false--i.e., beliefs are fixed.

---

5. Attempt to Disprove Ideas

How actively do you try to disprove or reject your ideas/beliefs? How much of an effort do you make to convince yourself that your beliefs are inaccurate?

(Interviewer should rate attempts patient makes to talk himself/herself out of the belief, not attempts to push the thoughts/ideas out of his/her mind or think about something else.)

0- Always involved in trying to disprove beliefs, or not necessary to disprove because beliefs are not true.
1- Usually tries to disprove beliefs.
2- Sometimes tries to disprove beliefs.
3- Occasionally attempts to disprove beliefs.
4- Makes no attempt to disprove beliefs.

---

6. Insight

What do you think has caused you to have these beliefs? Do they have a psychiatric or psychological cause, or are they actually true?

(Interviewer should determine what the patient actually believes, not what s/he has been told or hopes is true.)

(Recognition that the thoughts are excessive (i.e., take up too much time) or cause problems for the patient should not be considered equivalent to psychiatric/psychological etiology. Instead rate patient's awareness that the source/cause of the beliefs is psychiatric/psychological.)

0- Beliefs definitely have a psychiatric/psychological cause.
1- Beliefs probably have a psychiatric/psychological cause.
2- Beliefs possibly have a psychiatric/psychological cause.
3- Beliefs probably do not have a psychiatric/psychological cause.
4- Beliefs definitely do not have a psychiatric/psychological cause.

7. TOTAL BABS SCORE: _____ = SUM OF QUESTIONS 1 THROUGH 6

ADDITIONAL ITEM: *(Do not include in total score)*

8. Ideas/delusions of reference

Does it ever seem that people are talking about you or taking special notice of you because of *(fill in belief)*?
OPTIONAL: What about receiving special messages from your environment because of *(fill in belief)*?
(How certain are you of this?)

(This question pertains only to the belief(s) being assessed by the BABS interviewer--not if patient thinks s/he is noticed for a reason unrelated to the beliefs being assessed. Interviewer should NOT base answer on observable actions or compulsions; instead, rate core belief.)

0- No; others definitely do not take special notice of me.
1- Others probably do not take special notice of me.
2- Others may or may not take special notice of me.
3- Others probably do take special notice of me.
4- Others definitely do take special notice of me.

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			**I feel as if I am slowed down:**
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			**I get a sort of frightened feeling like 'butterfiles' in the stomach:**
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			**I have lost interest in my appearance:**
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			**I feel restless as I have to be on the move:**
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			**I look forward with enjoyment to things:**
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			**I get sudden feelings of panic:**
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			**I can enjoy a good book or radio or TV program:**
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

36-Item Short Form Survey Instrument (SF-36)

RAND 36-Item Health Survey 1.0 Questionnaire Items

Choose one option for each questionnaire item.

1. In general, would you say your health is:

- 1 - Excellent
- 2 - Very good
- 3 - Good
- 4 - Fair
- 5 - Poor

---

2. **Compared to one year ago**, how would you rate your health in general **now**?

- 1 - Much better now than one year ago
- 2 - Somewhat better now than one year ago
- 3 - About the same
- 4 - Somewhat worse now than one year ago
- 5 - Much worse now than one year ago

The following items are about activities you might do during a typical day. Does **your health now limit you** in these activities? If so, how much?

	Yes, limited a lot	Yes, limited a little	No, not limited at all
3. **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	○ 1	○ 2	○ 3
4. **Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	○ 1	○ 2	○ 3
5. Lifting or carrying groceries	○ 1	○ 2	○ 3
6. Climbing **several** flights of stairs	○ 1	○ 2	○ 3
7. Climbing **one** flight of stairs	○ 1	○ 2	○ 3
8. Bending, kneeling, or stooping	○ 1	○ 2	○ 3
9. Walking **more than a mile**	○ 1	○ 2	○ 3
10. Walking **several blocks**	○ 1	○ 2	○ 3
11. Walking **one block**	○ 1	○ 2	○ 3
12. Bathing or dressing yourself	○ 1	○ 2	○ 3

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health**?

	Yes	No
13. Cut down the **amount of time** you spent on work or other activities	○ 1	○ 2
14. **Accomplished less** than you would like	○ 1	○ 2
15. Were limited in the **kind** of work or other activities	○ 1	○ 2
16. Had **difficulty** performing the work or other activities (for example, it took extra effort)	○ 1	○ 2

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

	Yes	No
17. Cut down the **amount of time** you spent on work or other activities	○ 1	○ 2
18. **Accomplished less** than you would like	○ 1	○ 2
19. Didn't do work or other activities as **carefully** as usual	○ 1	○ 2

---

20. During the **past 4 weeks**, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

- ○ 1 - Not at all
- ○ 2 - Slightly
- ○ 3 - Moderately
- ○ 4 - Quite a bit
- ○ 5 - Extremely

---

21. How much **bodily** pain have you had during the **past 4 weeks**?

- 1 - None
- 2 - Very mild
- 3 - Mild
- 4 - Moderate
- 5 - Severe
- 6 - Very severe

---

22. During the **past 4 weeks**, how much did **pain** interfere with your normal work (including both work outside the home and housework)?

- 1 - Not at all
- 2 - A little bit
- 3 - Moderately
- 4 - Quite a bit
- 5 - Extremely

These questions are about how you feel and how things have been with you **during the past 4 weeks**. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the **past 4 weeks**...

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
23. Did you feel full of pep?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
24. Have you been a very nervous person?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
25. Have you felt so down in the dumps that nothing could cheer you up?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
26. Have you felt calm and peaceful?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
27. Did you have a lot of energy?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
28. Have you felt downhearted and blue?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
29. Did you feel worn out?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
30. Have you been a happy person?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
31. Did you feel tired?	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6

32. During the **past 4 weeks**, how much of the time has **your physical health or emotional problems** interfered with your social activities (like visiting with friends, relatives, etc.)?

- ○ 1 - All of the time
- ○ 2 - Most of the time
- ○ 3 - Some of the time
- ○ 4 - A little of the time
- ○ 5 - None of the time

How TRUE or FALSE is each of the following statements for you.

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
33. I seem to get sick a little easier than other people	○ 1	○ 2	○ 3	○ 4	○ 5
34. I am as healthy as anybody I know	○ 1	○ 2	○ 3	○ 4	○ 5
35. I expect my health to get worse	○ 1	○ 2	○ 3	○ 4	○ 5
36. My health is excellent	○ 1	○ 2	○ 3	○ 4	○ 5

உடல் தோற்ற மனநோயுடையவர்களிடையே மனநல பாதிப்பு பற்றிய ஓர் மதிப்பீட்டு ஆய்வு

தகவல் :

ஆராய்ச்சியின் நோக்கமும்,பயன்களும் :

உடல் தோற்ற மனநோய் ஒருவகையான மனநல நொயாகும். இந்த மனநோய் உடையவர்கள் தங்கள் உடலமைப்பில் ஒருவித தோற்ற பிரச்சனை உள்ளது என எண்ணி மனக்கவலையுடன் இருப்பர். இதனை அறிந்து கொள்ள ∴ உறுதிசெய்ய கண்ணாடி பார்ப்பதுஇ அளவுக்கு அதிகமாக சிங்காரித்துக்கொள்வது மற்றவருடன் ஒப்பிட்டு பார்ப்பது போன்ற செயல்களை மீண்டும் மீண்டும் மேற்கொள்வர். இந்த எண்ணங்களால் அன்றாட வேளையில் சரிவர ஈடுபடமுடியாமல் கவலை கொள்வதால் வழக்கை தரத்தில் தாழ்வு ஏற்படும்.

இந்த நோய் மக்கள்தொகையில் 0.7மூ முதல் 2.4மூ வரை பரவலாக காணப்படுகிறது என்று மருத்துவ ஆராய்ச்சிகளில் கூறப்படுகின்றது. இந்நோய் குறைபாடு மனசிதைவு நோயைவிட அதிகமாக உள்ளது. இந்நோய் உடையவர்கள் கீழ்கண்ட பிரிவுகளில் உள்ள மருத்துவ துறைகளிலோ அல்லது மனநோயுடனோ காணப்படுவர்

- தோல் நோய் பிரிவு - 9மூ முதல் 12மூ
-அழகியல் துறை - 3மூ முதல் 53மூ
- த்ரிகோயிலோமேனியா (முடி உட்கொள்வது) - 8மூ முதல் 37மூ
- பயந்த மற்றும் பதட்ட நோய் - 11மூ முதல் 13மூ
- மனசோர்வு நோய் - 14மூ முதல் 42மூ

மருத்துவமனையில் உளநோயாளிகளாக இருக்கும் இளம்வயது நோயாளிகளில் உடல் தோற்ற என்ன குறைபாடுடன் காணப்படுவர். இக்குறைபாடு உடையவர்கள் தங்கள் எண்ணங்களை பிறரிடமோ அல்லது

மருத்துவர்களிடமோ பகிர்ந்துகொள்வதில் மிகுந்த தயக்கம் கொள்வதால் இந்நோயின் உண்மையான தாக்கத்தை கணிக்க இயலவில்லை.

ஆதலால் இக்குறைபாடு உடையவர்களை கண்டறிந்துஇஅவர்களுக்கு தகுந்த சிகிச்சையையும் அறிவுரைகளையும் கொடுத்தால்இஅவர்களின் வழக்கைதரத்தை உயர்த்தலாம்.இதுவே இந்த ஆய்வின் நோக்கமாகும்.

<u>ஆய்வுநடைமுறைகள் :</u>

அழகியல் பிரிவுக்கு வரும் 13 வயதிற்கு மேல் உள்ள நோயாளிகள் இந்த ஆய்வுக்கு தகுதியானவர்கள்

<u>அந்தரங்கதன்மை:</u>

உங்கள் மருத்துவப் பதிவேடுகள் மிகவும் அந்தரங்கமாகவைத்துக் கொள்ளப்படும் மற்றும் இன்னபிறமருத்துவர்கள் விஞ்ஞானிகள் இந்தஆய்வின் தனணிக்கையாளர்கள் அல்லதுஆராய்ச்சிஆதரவாளர்களின் பிரதிநிதிகள் ஆகியோரிடமும் அவைவெளிப்படுத்தப்படும். இந்தஆய்வின் முடிவுகள் அறிவியல் பத்திரிக்கைகளில் பிரசுரிக்கப்படலாம். ஆனால்,பெயரைவெளியிடுவதன் மூலம் நோயாளிகள் அடையாளம் காட்டப்படமாட்டார்கள்.

<u>ஆய்வில் உங்கள் பங்கேற்புமற்றும் உங்கள் உரிமைகள் :</u>

இந்தஆய்வில் உங்கள் பங்கேற்புமுழுவதும் உங்களுடையவிருப்பத்தைச் சார்ந்தது. இதில் நீங்கள் பங்கேற்கமறுக்கவோ,பாதியில் வெளியேறிவிடவோஅல்லதுகுறிப்பிட்டகேள்விகளுக்குவிடையளிக்கமறுக்கவோ,உங்களுக்கு முழு உரிமைஉண்டு. எப்படி இருந்தாலும் உங்கள் உடல் நிலைக்கேற்ப,உங்களுக்குபொருத்தமானசிகிச்சைதொடர்ந்துஅளிக்கப்படும். தாங்கள் இது குறித்துவேறுவிபரங்கள் தெரிந்துகொள்ளவிரும்பினால்,எங்களிடம் கேட்டுத் தெரிந்துகொள்ளலாம்.

மேலும் விபரங்கள் அறியகீழ் கண்டநபரைஅணுகவும்.

மரு.ப.மணிவண்ணன் ,
கைப்பேசி எண்.9894284370

(தனியாகப் பிரித்தெடுத்துஆய்வில் பங்கேற்பவரிடம் தரப்படவேண்டும்)

<u>சுய ஒப்புதல் படிவம் :</u>

ஆய்வின் பெயர்	:	**உடல் தோற்ற மனநோயுடையவர்களிடையே மனநல பாதிப்பு பற்றிய ஓர் மதிப்பீட்டு ஆய்வு**
ஆராய்ச்சிநிலையம்	:	
பங்குபெறுபவரின் பெயர்	:	
பங்குபெறுபவரின் எண்	:	
நோயாளி இதனை (√) குறிக்கவும் :		
மேலேகுறிப்பிடப்பட்டுள்ளமருத்துவஆய்வின் விவரங்கள் எனக்குவிளக்கப்பட்டது. என்னுடையசந்தேகங்களைகேட்கவும் அதற்கானதகுந்தவிளக்கங்களைப் பெறவும் வாய்ப்பளிக்கப்பட்டது.		☐
நான் இந்தஆய்வில் தன்னிச்சையாகத்தான் பங்கேற்கிறேன். எந்தகாரணத்தினாலும் எந்தகட்டத்திலும் எந்தசட்டச் சிக்கலுக்கும் உட்படாமல் நான் இந்தஆய்வில் இருந்துவிலகிக் கொள்ளலாம் என்றுஅறிந்துகொள்கிறேன்		☐
இந்தஆய்வுச் சம்பந்தமாகவும், இதைச் சார்ந்தமேலும் ஆய்வுமேற்கொள்ளும் போதும், இந்தஆய்வில் பங்குபெறும் மருத்துவர் என்னுடையமருத்துவஅறிக்கைகளைப் பார்ப்பதற்குஎன் அனுமதிதேவையில்லைஎனஅறிந்துகொள்கிறேன். நான் ஆய்வில் இருந்துவிலகிக் கொண்டாலும் இது பொருந்தும் எனஅறிகிறேன்.		☐
இந்த ஆய்வின் மூலம் கிடைக்கும் தகவல்களையும்,பரிசோதனைமுடிவுகளையும்,மற்றும் சிகிச்சைதொடர்பானதகவல்களையும்,மருத்துவர் மேற்கொள்ளும் ஆய்வில் பயன்படுத்திக் கொள்ளவும்,அதைபிரசுரிக்கவும்.˙.பதிப்பிக்கவும் என் முழு மனதுடன் சம்மத்திக்கிறேன்.		☐
இந்தஆய்வில் பங்குகொள்ளஒப்புக்கொள்கிறேன். எனக்குகொடுக்கப்படும் அறிவுரைகளின்படிநடந்துகொள்வதுடன் இந்தஆய்வைமேற்கொள்ளும் மருத்துவஅணிக்குஉண்மையுடன் இருப்பேன் என்றும் உறுதிஅளிக்கின்றேன்.		☐

பங்கேற்பவரின் .˙.உறவினரின் கையொப்பம்

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இடம் …….. தேதி……..

கட்டைவிரல் ரேகை ...

பங்கேற்பவரின் காப்பாளரின் கையொப்பம்

இடம் …….. தேதி……..

கட்டைவிரல் ரேகை ...

பங்கேற்பவரின் பெயர் மற்றும் விலாசம்

ஆய்வாளரின் கையொப்பம்

இடம் …….. தேதி……..

ஆய்வாளரின் பெயர் ……..

நோயாளியின் பெயர் ……..

பாலினம் ஆண் …….. பெண் ……..

வயது……ஆண்டுகள் அல்லதுபிறந்ததேதி……..

நோயாளியைதொடர்புகொள்ளும் முகவரி

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நோயாளியின் தொலைபேசிஎண்.

நோயாளியின் தந்தை.்.கணவர்.்.உறவினர் பெயர் ..……..

		பங்கேற்பவரின் கையொப்பம்.்.பெருவிரல் பதிப்பு
1.	மேலேகுறிப்பிடப்பட்டுள்ளமருத்துவ ஆய்வின் ஙஙங

MASTER CHART

S.No	Age	Sex	Marital Status	Religion		Occupation	Educational Status	Substance use	H/o Prior Psychiatric Consultations	DCQ	DCQ Score	BDDQ
1	18	1	2	1	2	Student	3	2	2	1	10	1
2	19	1	2	1	2	Student	2	2	2	1	17	1
3	17	1	2	1	2	Student	3	2	2	1	11	1
4	20	1	2	1	2	Student	4	2	2	1	15	1
5	19	2	2	1	2	Student	4	2	2	1	9	1
6	14	1	2	1	2	Student	3	2	2	2	0	2
7	19	1	2	1	2	Student	4	2	2	1	9	1
8	38	2	5	1	4	Tailor	3	2	2	1	14	1
9	20	1	2	2	2	Student	4	2	2	2	0	2
10	15	2	2	1	2	Student	3	2	2	2	0	2
11	42	2	1	3	1	Housewife	2	2	2	2	0	2
12	17	1	2	1	4	Secregator in Chocolate Company	3	2	2	2	3	2
13	20	1	2	3	2	Student	5	2	2	2	1	2
14	19	1	2	1	2	Student	4	2	2	2	3	2
15	18	2	2	4	2	Student	4	2	2	2	0	2
16	24	2	2	2	4	Employee in a Dress store	3	2	2	2	7	1
17	18	2	2	1	2	Student	4	2	2	2	3	1
18	19	2	2	1	2	Student	4	2	2	2	2	2
19	22	1	2	1	2	Student	4	2	2	2	2	2
20	26	1	1	1	2	Student	4	2	2	2	0	2
21	27	2	1	1	1	Housewife	2	2	2	2	0	2

22	24	2	1	1	1	Housewife	2	2	2	2	0	2
23	23	1	2	3	5	Designing Silverware	3	2	2	1	15	1
24	18	2	2	1	2	Student	4	2	2	2	3	2
25	20	1	2	1	2	Student	4	2	2	2	2	1
26	20	2	2	1	2	Student	4	2	2	2	1	2
27	22	1	2	1	5	Electrical Maintenance	4	2	2	2	1	2
28	21	2	2	2	4	Beautyparloue	3	2	2	2	0	2
29	18	1	2	1	2	Student	3	2	2	1	10	1
30	19	1	2	1	2	Student	4	2	2	2	1	2
31	20	2	2	2	2	Student	4	2	2	2	2	2
32	18	1	2	1	2	Student	3	2	2	2	0	2
33	17	2	2	1	2	Student	4	2	2	1	9	1
34	22	1	2	1	2	Student	4	2	2	2	0	1
35	19	2	2	1	2	Student	4	2	2	2	8	2
36	18	1	2	1	2	Student	4	2	2	2	4	1
37	21	1	2	1	6	Marketing	4	2	2	1	16	1
38	17	1	2	3	2	Student	3	2	2	2	3	1
39	28	1	2	1	6	Software eng	4	2	2	2	0	2
40	30	1	1	1	6	Marketing	4	2	2	2	0	2
41	26	1	1	1	4	hairdresser	2	2	2	2	0	2
42	40	1	1	1	4	Autodriver	1	2	2	2	4	1
43	25	1	2	1	6	HR in Accenture	4	2	2	2	7	1
44	25	1	2	1	6	HR in Accenture	4	2	2	2	4	1
45	40	1	1	1	6	Software eng	5	2	2	2	1	1
46	32	2	2	2	5	gold smith employee	3	2	2	2	7	1

47	45	1	1	2	6	Buissness Executive	4	2	2	1	9	1
48	18	1	2	1	2	Student	3	2	2	1	10	1
49	17	1	2	3	2	Student	3	2	2	2	3	1
50	20	1	2	1	2	Student	4	2	2	1	15	1
51	19	1	2	1	2	Student	4	2	2	2	1	2
52	20	2	2	1	2	Student	4	2	2	2	1	2
53	18	1	2	1	2	Student	3	2	2	2	0	2
54	27	1	1	1	4	Mechanic	3	2	2	2	0	2
55	21	2	2	2	4	Beautyparlour	3	2	2	2	0	2
56	18	1	2	1	2	Student	3	2	2	2	0	2
57	17	1	2	3	2	Student	3	2	2	2	3	1
58	19	2	2	1	2	Student	4	2	2	2	2	2
59	34	1	1	1	4	Fruitseller	2	2	2	2	0	2
60	18	1	2	1	2	Student	3	2	2	2	0	2
61	38	2	1	1	4	Welding	2	2	2	1	13	1
62	19	1	2	1	2	Student	4	2	2	2	1	2
63	20	2	2	1	2	Student	4	2	2	2	1	2
64	18	1	2	1	2	Student	3	2	2	2	0	2
65	37	1	1	1	4	Cobbler	2	2	2	2	0	2
66	20	1	2	1	2	Student	4	2	2	1	15	1
67	19	2	2	1	2	Student	4	2	2	2	2	2
68	17	1	2	3	2	Student	3	2	2	2	3	1
69	24	1	2	1	4	Sales boy	2	2	2	2	0	2
70	19	1	2	1	2	Student	4	2	2	2	1	2
71	20	2	2	1	2	Student	4	2	2	2	1	2
72	18	1	2	1	2	Student	3	2	2	2	0	2
73	20	1	2	1	2	Student	4	2	2	1	15	1
74	18	1	2	1	2	Student	3	2	2	2	0	2

75	30	2	1	1	3	Maid	2	2	2	2	0	2
76	17	1	2	3	2	Student	3	2	2	2	3	1
77	19	2	2	1	2	Student	4	2	2	2	2	2
78	38	2	1	1	4	Bus Conductor	2	2	2	1	14	1
79	18	1	2	1	2	Student	3	2	2	2	0	2
80	39	1	1	2	4	Autodriver	2	2	2	2	0	2
81	17	1	2	1	3	Secregator in Chocolate Company	3	2	2	2	3	2
82	19	2	2	1	2	Student	4	2	2	2	2	2
83	18	1	2	1	2	Student	3	2	2	2	0	2
84	34	2	1	1	4	Cook	2	2	2	2	0	2
85	19	2	2	1	2	Student	4	2	2	2	2	2

S.No	BDDQ Question 2	YBOCS	YBOCS Score	BABS 1	BABS 2	BABS 3	BABS 4	BABS 5	BABS 6	BABS Score	BABS 7
1	2	1	8	0	0	0	0	0	0	0	0
2	2	4	39	4	2	4	4	4	0	22	4
3	2	2	13	4	4	2	1	1	1	14	1
4	2	3	25	3	0	3	2	3	3	14	0
5	2	3	21	1	0	3	1	3	0	8	0
6	2	1	1	0	0	0	0	0	0	0	0
7	2	2	11	1	1	3	4	4	4	17	0
8	2	2	23	4	0	4	3	3	4	22	4

9	2	1	0	0	0	0	0	0	0	0	0
10	2	1	0	0	0	0	0	0	0	0	0
11	2	1	0	0	0	0	0	0	0	0	0
12	2	1	0	0	0	0	0	0	0	0	0
13	2	1	0	0	0	0	0	0	0	0	0
14	2	1	3	1	1	0	0	0	0	2	0
15	2	1	0	0	0	0	0	0	0	0	0
16	2	2	13	2	2	1	0	0	1	6	2
17	2	1	4	4	2	3	1	4	1	15	2
18	2	1	0	0	0	0	0	0	0	0	0
19	2	1	0	0	0	0	0	0	0	0	0
20	2	1	0	0	0	0	0	0	0	0	0
21	2	1	0	0	0	0	0	0	0	0	0
22	2	1	0	0	0	0	0	0	0	0	0
23	2	4	30	4	3	4	1	2	0	14	4
24	2	1	0	0	0	0	0	0	0	0	0
25	2	1	2	0	0	0	0	0	0	0	0
26	2	1	0	0	0	0	0	0	0	0	0
27	2	1	0	0	0	0	0	0	0	0	0
28	2	1	0	0	0	0	0	0	0	0	0
29	2	4	31	3	2	2	4	4	4	19	0
30	2	1	0	0	0	0	0	0	0	0	0
31	2	1	0	0	0	0	0	0	0	0	0
32	2	1	0	0	0	0	0	0	0	0	0
33	2	1	10	4	2	1	0	0	3	10	2
34	2	1	0	0	0	0	0	0	0	0	0
35	2	1	8	4	2	2	1	0	2	11	2
36	2	1	2	4	1	1	0	0	3	9	2
37	2	4	27	4	4	4	3	4	2	21	4

38	2	1	3	3	2	1	1	0	2	9	3
39	2	1	0	0	0	0	0	0	0	0	0
40	2	1	0	0	0	0	0	0	0	0	0
41	2	1	0	0	0	0	0	0	0	0	0
42	2	1	1	4	2	2	1	0	3	12	0
43	1	1	5	4	3	3	2	1	1	14	3
44	2	1	2	4	2	2	1	0	2	11	0
45	2	1	1	4	2	2	1	0	2	11	0
46	2	2	13	2	2	1	0	0	1	6	2
47	2	2	10	1	1	2	1	2	1	8	1
48	2	4	29	3	2	2	4	4	4	19	0
49	2	1	3	3	2	1	1	0	2	9	3
50	2	3	25	3	0	3	2	3	3	14	0
51	2	1	0	0	0	0	0	0	0	0	0
52	2	1	0	0	0	0	0	0	0	0	0
53	2	1	0	0	0	0	0	0	0	0	0
54	2	1	0	0	0	0	0	0	0	0	0
55	2	1	0	0	0	0	0	0	0	0	0
56	2	1	0	0	0	0	0	0	0	0	0
57	2	1	3	3	2	1	1	0	2	9	3
58	2	1	0	0	0	0	0	0	0	0	0
59	2	1	0	0	0	0	0	0	0	0	0
60	2	1	0	0	0	0	0	0	0	0	0
61	2	2	23	4	0	4	3	3	4	22	4
62	2	1	0	0	0	0	0	0	0	0	0
63	2	1	0	0	0	0	0	0	0	0	0
64	2	1	0	0	0	0	0	0	0	0	0
65	2	1	0	0	0	0	0	0	0	0	0
66	2	3	25	3	0	3	2	3	3	14	0

67	2	1	0	0	0	0	0	0	0	0	0
68	2	1	3	3	2	1	1	0	2	9	3
69	2	1	0	0	0	0	0	0	0	0	0
70	2	1	0	0	0	0	0	0	0	0	0
71	2	1	0	0	0	0	0	0	0	0	0
72	2	1	0	0	0	0	0	0	0	0	0
73	2	3	24	3	0	3	2	3	3	14	0
74	2	1	0	0	0	0	0	0	0	0	0
75	2	1	0	0	0	0	0	0	0	0	0
76	2	1	3	3	2	1	1	0	2	9	3
77	2	1	0	0	0	0	0	0	0	0	0
78	2	2	22	4	0	4	3	3	4	22	4
79	2	1	0	0	0	0	0	0	0	0	0
80	2	1	0	0	0	0	0	0	0	0	0
81	2	1	0	0	0	0	0	0	0	0	0
82	2	1	0	0	0	0	0	0	0	0	0
83	2	1	0	0	0	0	0	0	0	0	0
84	2	1	0	0	0	0	0	0	0	0	0
85	2	1	0	0	0	0	0	0	0	0	0

S.No	HADS A	HADS A Score	HADS D	HADS D Score	SF 36 Physical functioning	Role Limitation	Bodily pain	Social functioning	General Mental Health	Role Limitations Due To emotional Problems	Vitatlity, energy Or Fatigue	General Health Perceptions	Health Compared To Last year
1	1	2	1	1	100	100	100	100	88	100	100	100	100
2	2	10	3	17	16.666667	25	45	25	12	0	25	55	0
3	1	4	1	3	100	100	100	87.5	92	100	80	90	100
4	3	13	2	8	88.89	50	45	37.5	28	0	45	40	25
5	3	14	2	9	27.78	25	67.5	25	44	33.34	80	55	50
6	1	0	1	0	100	100	100	100	100	100	100	100	100
7	2	9	1	2	100	100	67.5	75	84	100	85	70	75
8	3	11	3	18	88.89	50	45	37.5	28	0	45	40	25
9	1	0	1	0	100	100	100	100	100	100	100	100	100
10	1	0	1	0	100	100	100	100	100	100	100	100	100
11	1	0	1	0	100	100	100	100	100	100	100	100	100
12	1	0	1	0	100	100	100	100	100	100	100	100	100
13	1	0	1	0	100	100	100	100	100	100	100	100	100
14	1	0	1	0	100	100	100	100	100	100	100	100	100
15	1	1	1	2	100	100	100	100	100	100	100	100	100
16	2	9	1	7	100	100	67.5	75	72	100	85	70	50
17	1	1	1	2	100	100	100	100	92	100	100	90	75
18	1	2	1	1	100	100	100	100	100	100	100	100	100
19	1	0	1	0	100	100	100	100	100	100	100	100	100
20	1	0	1	0	100	100	100	100	100	100	100	100	100
21	1	0	1	0	100	100	100	100	100	100	100	100	100
22	1	0	1	0	100	100	100	100	100	100	100	100	100
23	2	9	3	15	66.67	0	55	0	24	0	15	15	75
24	1	0	1	0	100	100	100	100	100	100	100	100	100

25	1	0	1	0	100	100	100	100	100	100	100	100	100
26	1	0	1	0	100	100	100	100	100	100	100	100	100
27	1	0	1	0	100	100	100	100	100	100	100	100	100
28	1	0	1	0	100	100	100	100	100	100	100	100	100
29	3	11	2	8	38.89	50	10	25	52	0	5	40	0
30	1	0	1	0	100	100	100	100	100	100	100	100	100
31	1	0	1	0	100	100	100	100	100	100	100	100	100
32	1	0	1	0	100	100	100	100	100	100	100	100	100
33	1	4	2	8	100	100	67.5	75	72	100	85	70	75
34	1	0	1	0	100	100	100	100	100	100	100	100	100
35	1	4	1	2	100	100	77.5	75	84	100	80	85	50
36	1	5	1	0	100	100	77.5	75	84	100	80	85	50
37	3	11	3	11	100	25	45	37.5	52	0	65	60	25
38	1	3	1	5	100	100	90	75	76	100	85	90	75
39	1	0	1	0	100	100	77.5	100	88	100	70	90	75
40	1	1	1	1	100	100	100	100	92	100	85	95	75
41	1	2	1	1	100	100	100	100	88	100	80	95	75
42	1	0	1	0	100	100	100	100	100	100	100	100	100
43	1	3	2	8	88.89	100	67.5	87.5	76	100	80	75	50
44	1	4	1	3	100	100	77.5	100	88	100	70	90	75
45	1	0	1	0	100	100	77.5	100	88	100	70	90	75
46	2	10	1	6	100	100	67.5	75	72	100	85	70	75
47	3	13	2	10	100	100	67.5	62.5	64	33.34	50	30	25
48	3	11	2	8	38.89	50	10	25	52	33.34	40	40	25
49	1	1	1	2	100	100	90	75	76	100	85	90	75
50	3	13	2	8	88.89	50	45	37.5	28	0	45	40	25
51	1	0	1	0	100	100	100	100	100	100	100	100	100
52	1	0	1	0	100	100	100	100	100	100	100	100	100
53	1	0	1	0	100	100	100	100	100	100	100	100	100

54	1	1	1	1	100	100	100	100	92	100	85	95	75
55	1	0	1	0	100	100	100	100	100	100	100	100	100
56	1	0	1	0	100	100	100	100	100	100	100	100	100
57	1	1	1	2	100	100	90	75	76	100	85	90	75
58	1	2	1	1	100	100	100	100	100	100	100	100	100
59	1	1	1	1	100	100	100	100	92	100	85	95	75
60	1	0	1	0	100	100	100	100	100	100	100	100	100
61	3	11	3	18	88.89	50	45	37.5	28	0	45	40	25
62	1	0	1	0	100	100	100	100	100	100	100	100	100
63	1	0	1	0	100	100	100	100	100	100	100	100	100
64	1	0	1	0	100	100	100	100	100	100	100	100	100
65	1	1	1	1	100	100	100	100	92	100	85	95	75
66	3	13	2	8	88.89	50	45	37.5	28	0	45	40	25
67	1	2	1	1	100	100	100	100	100	100	100	100	100
68	1	1	1	2	100	100	90	75	76	100	85	90	75
69	1	1	1	1	100	100	100	100	92	100	85	95	75
70	1	0	1	0	100	100	100	100	100	100	100	100	100
71	1	0	1	0	100	100	100	100	100	100	100	100	100
72	1	0	1	0	100	100	100	100	100	100	100	100	100
73	3	13	2	8	88.89	50	45	37.5	28	0	45	40	25
74	1	0	1	0	100	100	100	100	100	100	100	100	100
75	1	1	1	1	100	100	100	100	92	100	85	95	75
76	1	1	1	2	100	100	90	75	76	100	85	90	75
77	1	2	1	1	100	100	100	100	100	100	100	100	100
78	3	11	3	18	100	50	45	37.5	28	0	45	40	25
79	1	0	1	0	100	100	100	100	100	100	100	100	100
80	1	1	1	1	100	100	100	100	92	100	85	95	75
81	1	0	1	0	100	100	100	100	100	100	100	100	100
82	1	2	1	1	100	100	100	100	100	100	100	100	100

83	1	0	1	0	100	100	100	100	100	100	100	100	100
84	1	1	1	1	100	100	100	100	92	100	85	95	75
85	1	2	1	1	100	100	100	100	100	100	100	100	100